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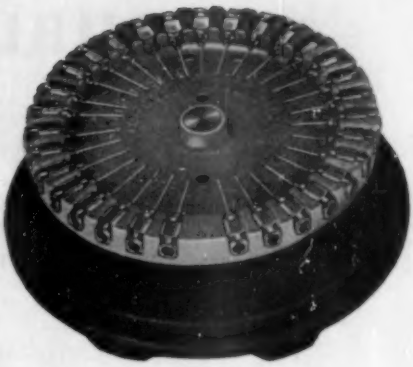

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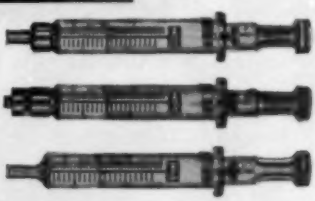

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The American Journal of Public Health is published by the American Public Health Association, Inc., at 374 Broadway, Albany 7, N. Y. Executive office 1790 Broadway, New York 19, N. Y. Subscription price $10.00 per year for United States, Cuba and Mexico, South and Central America; $10.50 for Canada; and $11.00 for other countries. Single copies $1.00 postpaid. Entered as second-class matter at the Post Office at Albany, N. Y., September 17, 1932, under the Act of March 3, 1879. Published monthly. Copyright, 1955, by American Public Health Association, Inc. The American Journal of Public Health is indexed in the Industrial Arts Index and, in part, in the quarterly Cumulative Index Medicus, Biological Abstracts, Chemical Abstracts, Engineering Index, and Public Affairs Information Service.

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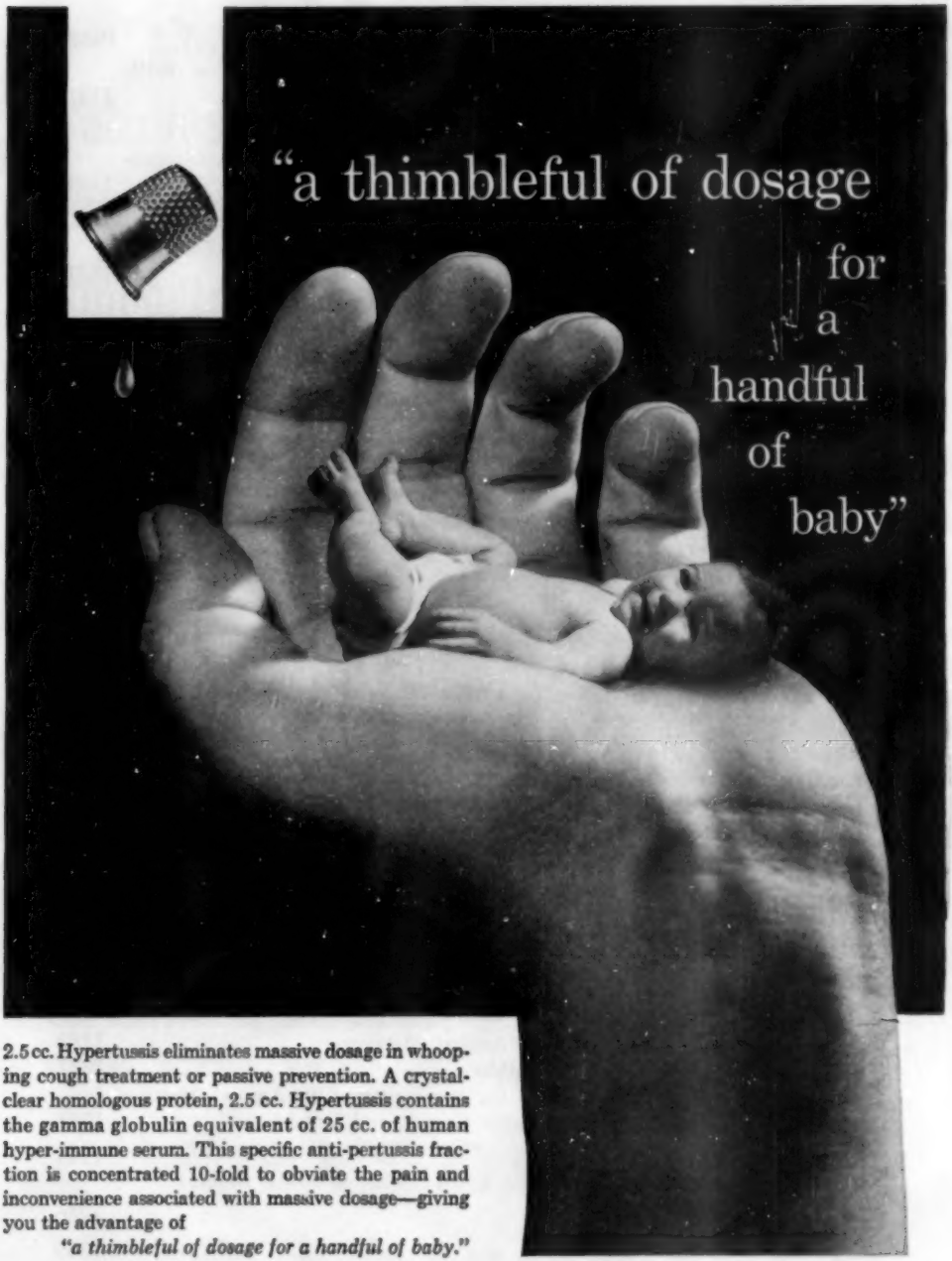

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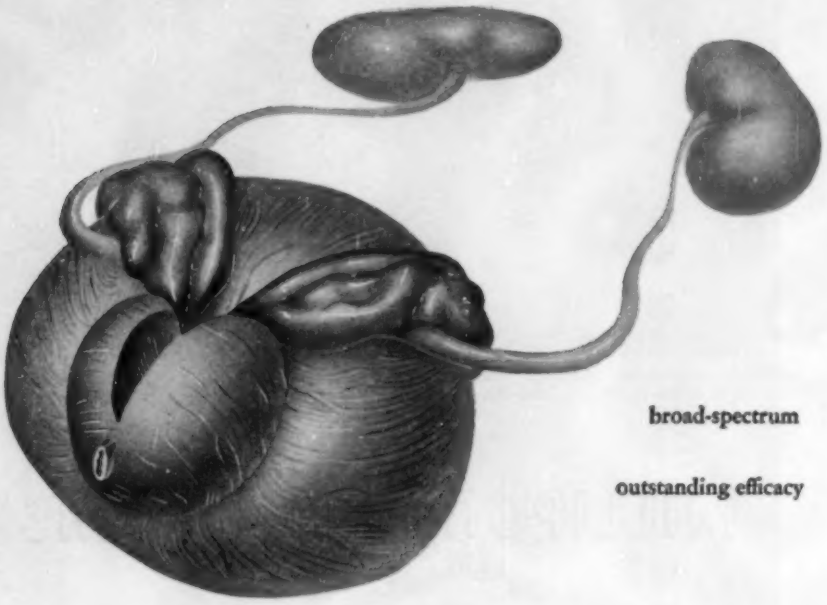

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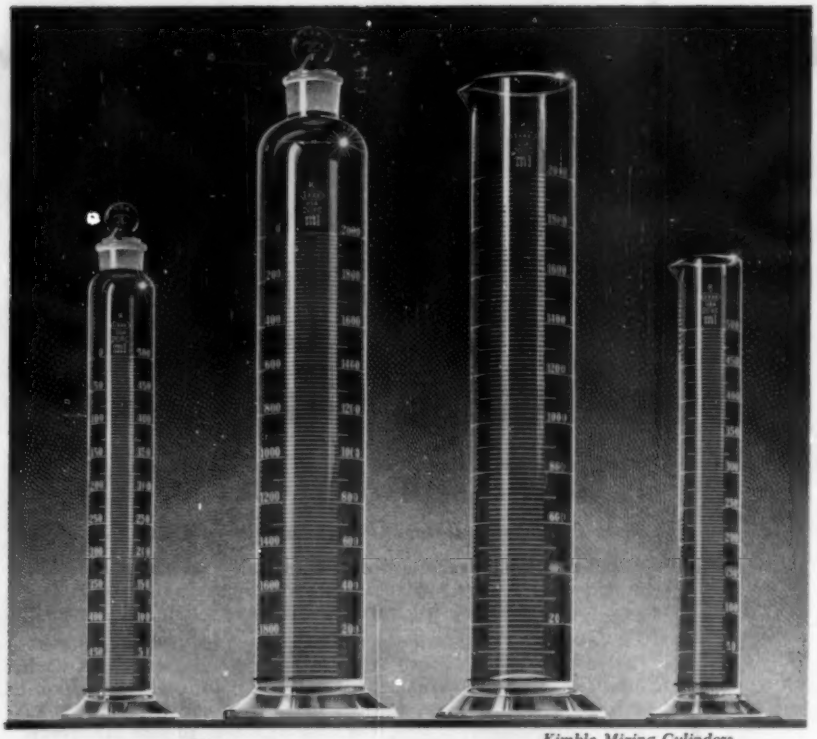

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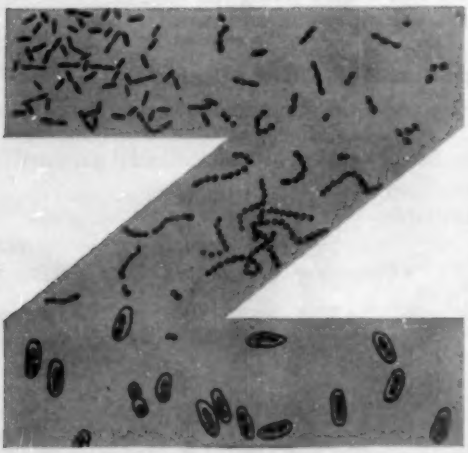

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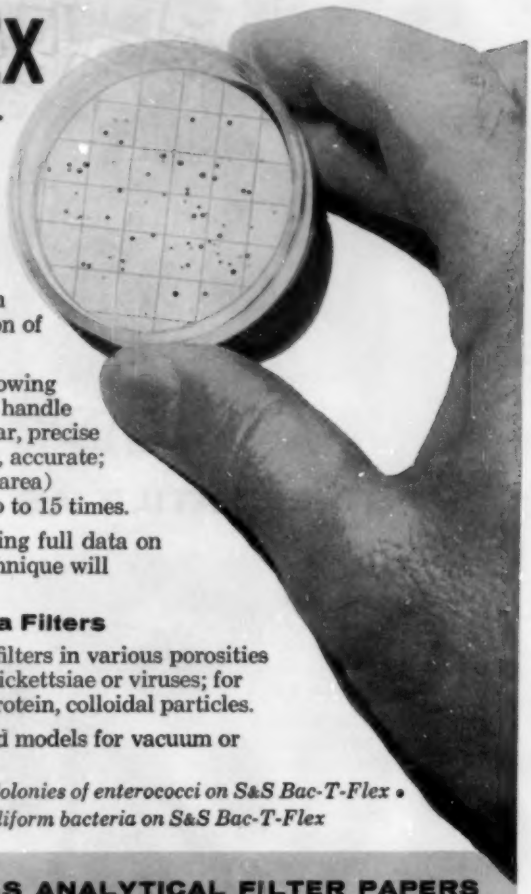

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1. Smith, C. A., and others: Am. J. Syph., Gonor. & Ven. Dis. 38:136 (March) 1954. 2. Council on Pharmacy and Chemistry: New and Nonofficial Remedies. J. B. Lippincott Co., Philadelphia, 1954, p. 148.

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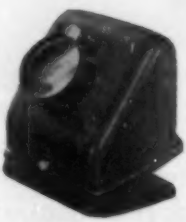

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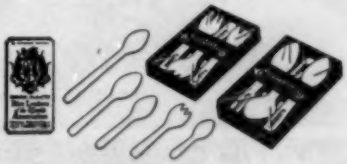

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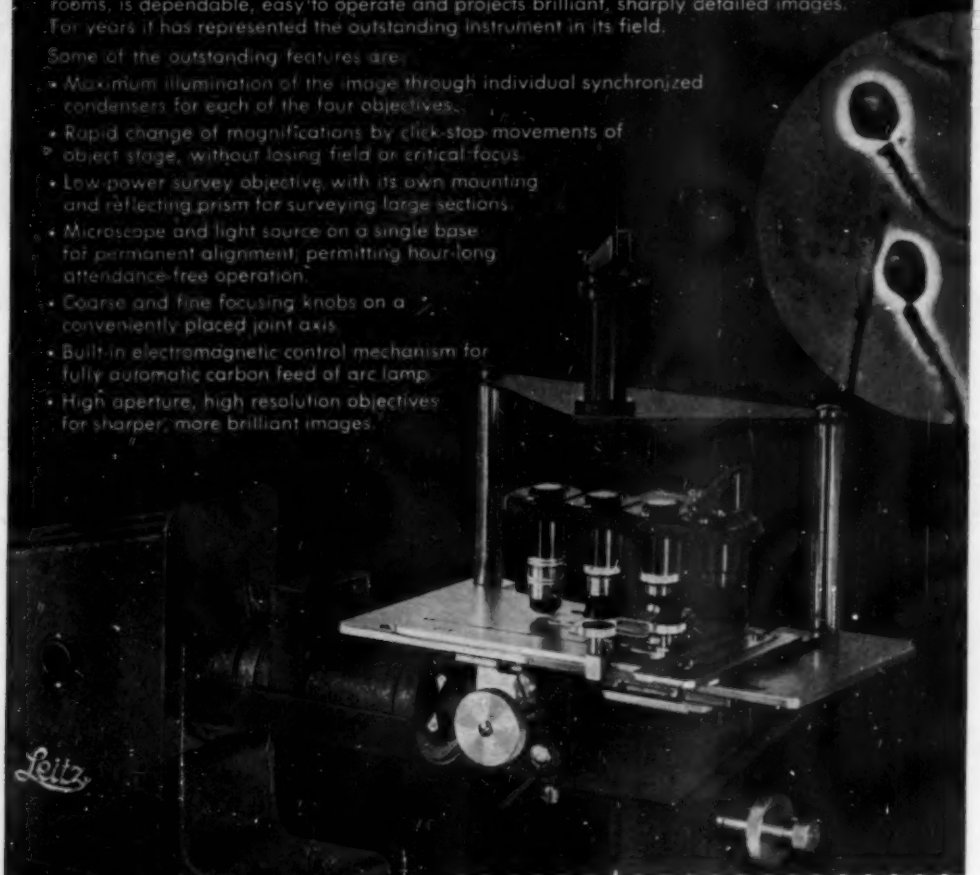

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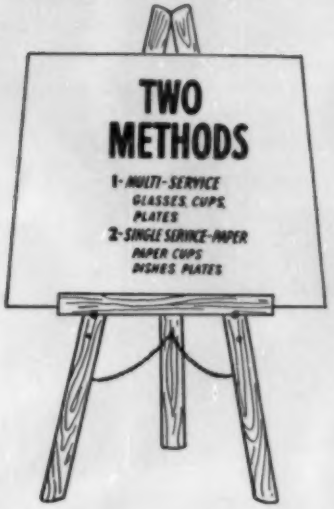

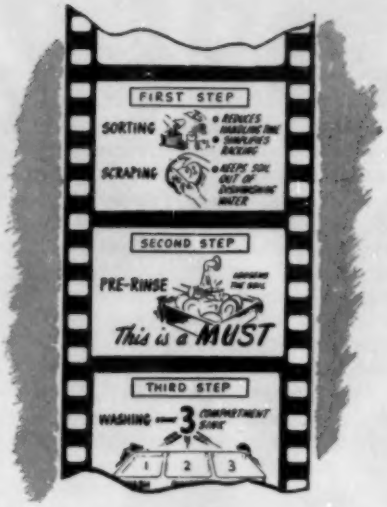

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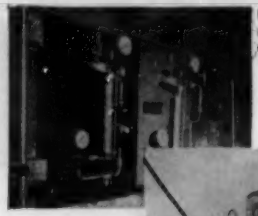

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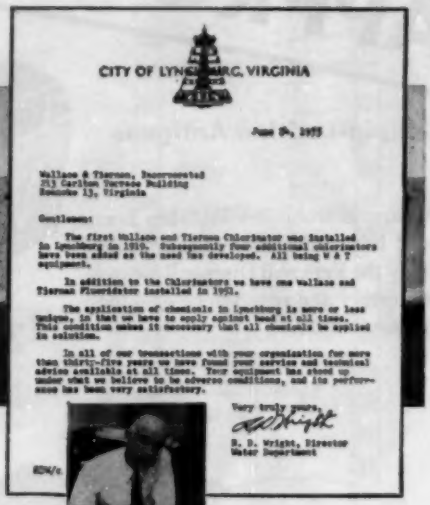

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American Journal of

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Official Monthly Publication of the American Public Health Association, Inc.

Volume 45 | September, 1955 | Number 9

Collaboration of the Medical School and the Health Department in Teaching Medical Students

WILLIAM W. SCHOTTSTAEDT, M.D., and STEWART WOLF, M.D.

Collaboration between the medical school and health department in Oklahoma promises large dividends in terms of breadth of education for medical students to produce young physicians who will approach their professional lifework with a comprehensive rather than compartmentalized viewpoint.

With our medical students one of our aims has been to teach them in such a way that they will be well prepared and well equipped for whatever phase of medicine they may later choose to enter. This has fostered compartmentalization of information and the development of specialized departments within medical schools. Departmental barriers then arise. We find ourselves becoming uneasy about crossing these barriers and then hesitant even to approach them too closely lest we infringe upon our neighbor's territory. Yet, much fertile ground lies close to and under these fences we have erected so arbitrarily.

The Department of Medicine at the University of Oklahoma School of Medicine has been interested in destroying some of these fences and effecting some form of cooperative effort among these neighbors. This is a natural outgrowth of the comprehensive orientation to medicine. Though individual physicians may have specialized and expert knowledge in one or another medical discipline, a broad range of interests is desirable in all. Collaborative effort is a stimulus to all who join forces in a common endeavor. At the University of Oklahoma, collaboration with other departments has been facilitated by an unusual atmosphere of mutual interest and cooperation. This

Dr. Schottstaedt is assistant professor and Dr. Wolf is professor of medicine, Departments of Medicine and Preventive Medicine, School of Medicine and University Hospitals, Oklahoma University, Oklahoma City, Okla.

This paper was presented before the Medical Care Section of the American Public Health Association at the Eighty-Second Annual Meeting in Buffalo, N. Y., October 12, 1954.

was particularly true of the Department of Preventive Medicine whose chairman is deeply interested in the improvement of medical teaching and in broadening the base of medical education. His support and cooperation were particularly important in the program to be described, since he is also an active, working member of the State Health Department.

Establishment of some form of continuity in the care of patients has long been a concern of those teaching in hospitals and clinics. It is distressing to have a patient who has been treated for congestive failure return to the clinic in a new episode of failure because he did not understand his instructions or was unable to carry them out at home. In the care of diabetics, instructions in the home preparation of diets or the sterilization of syringes must be individualized. It is difficult to give optimal care when conditions in the home cannot be visualized. Every fresh episode of coma or shock represents a failure in the long-term care of these patients. Such events are costly to the patient in terms of money, time lost from work, and general level of health. They are costly to the state and medical facilities that care for these patients. They are contrary to public health objectives.

To meet this challenge in patient care and to broaden the base of medical teaching, a plan was developed centering in the medical school, but reaching out into many local communities. The director of Outpatient Clinics was selected to direct this program. Funds were made available by the Commonwealth Fund. A plan was developed with the cooperation of the county health officers in six selected counties and with the approval of the several county medical societies. The six counties were chosen because they had active public health programs in operation and were staffed by personnel interested in the philosophy of the program. They were scattered about the state in order to include a variety of geographic, economic, and population problems. They varied in physical distance from the medical school so that the problems of effecting close liaison with communities as much as 200 miles from the university could be studied.

Charts of patients from these six counties were flagged for purposes of identification, but the general work-up did not differ from that accorded any other patient. However, following this initial work-up, students who had seen patients included in this Comprehensive Medical Care Program met with the director of the clinics and a social worker to discuss the problems, medical and social, presented by these patients. At this discussion recommendations were made for patient care in terms of medical treatment and follow-up, meeting financial and situational problems, helping with personal and family adjustments to illness, and consideration of rehabilitation.

A letter was then written by the medical student to the referring physician, a copy being sent to the local health department. Where there was no referring physician this letter was addressed directly to the county health officer. Details of treatment and recommendations for care were included in these letters. These recommendations commonly involved health department personnel. Requests were made for additional instructions in the home preparation of diets, the training of other family members in the rudiments of bedside care, periodic checking on the course of the patient to determine when return visits were advisable, urging that other members of the family be seen at the clinic, and obtaining firsthand reports on home situations which needed some clarification. When there was a referring physician, the health officer visited him before carrying out these recommendations. Follow-up letters

were written by the health departments so that the medical student could follow the course of his patients between clinic visits.

The senior student is in the general medical clinic for two days of each week throughout the year, except for time spent on preceptorship and obstetrics. This method of assigning students to outpatient service at the Oklahoma University School of Medicine allows for continuity of care for patients throughout the student's senior year, adding materially to the value of intercommunication. In addition, the social worker helped with personal problems of the patient and with referrals to appropriate governmental and voluntary agencies. This program was at one and the same time an experiment in community liaison, an exercise in preventive medicine, a teaching experience in continuity of care, and a demonstration of the value of effecting communication between physicians and community resources.

Such a system of correspondence between the medical school and local physicians gave the latter prompt information about test procedures, diagnostic impressions, and therapy instituted at the outpatient clinics. Thus, if called to see this patient in an emergency, the physician had complete information about the care he had been receiving. When the time came for discharge from the clinic and referral back to the private physician continuity of care had already been established and both physician and patient benefited.

This plan has been in operation for more than two years. It has paid some unexpected dividends. Whereas many local physicians had previously viewed the health department with suspicion, a friendly working relationship has been fostered through this program. When a physician has misplaced his copy of the letter sent from the clinic he knows he can obtain that information from the health department. Some physicians have made frequent use of the health department to obtain this and other types of information. In any event it has increased working contacts between health officers and practicing physicians and improved their relationship with each other. The prestige of the health officer has likewise been increased with county commissioners who control public funds made available for the indigent sick. Previously in asking for assistance for some patient he might be turned down with little real consideration of the needs and merits of the case; now, with the backing of a letter from the University Hospital, he may get what he requests. The program also has increased the understanding of medical students for the value of such liaison. It is not uncommon now for students to ask if they may write letters to physicians or health departments not in one of the selected counties.

The constructive potential of this program in cementing relationship between physicians and health departments seemed so valuable it was decided to enlarge the program. With the aid of funds from the Kellogg Foundation, one of the authors (W.S.) was placed in charge of an additional program which included student visits to these health departments. Each local health unit was visited by two or three students at a time for three consecutive days. Time for this was allotted from a period of 11 weeks spent in preceptorship training in the office of a rural or semirural practitioner. During this time students participated in the activities of the department, particular emphasis being placed on visits in the field with public health nurses so that the student would become familiar with the ways his recommendations are carried out. Time was also spent in health department clinics and the philosophy and value of these to the community was stressed.

No effort was made to introduce stu-

dents to all the activities of health departments or to give them any full understanding of the problem of administering such a unit, although sufficient explanation of these functions was given to afford him a picture of the place of a health department in community life and its relationship to good medical practice. Interest of the students in making these visits was increased by their frequent correspondence with these departments in the course of caring for their own patients in the clinics. It was further stimulated by the general-practice-preceptorship program where they observed and participated in community medicine. The small numbers visiting any one department at any one time assured individual attention and promoted a warm, personal relationship with all health department personnel. Health officers participating in this program have been given faculty status at the medical school. The medical school is no longer considered just an Oklahoma City institution. It is now recognized to be seriously concerned with the health of the citizens throughout the state.

A home visiting program is included in this plan. Students are urged to study these patients thoroughly before making their visits so as to have a good grasp of their social and familial backgrounds, their emotional conflicts, and their situational difficulties. The importance of social and environmental factors in medicine stands out in best relief against such a comprehensive framework. We have recently made arrangements to include the health departments in this program as well. Thus, a student who visits one of his patients may visit the local health department before his visit to the patient to obtain background information about the community from which the patient comes or about the patient himself. A public health nurse can accompany him on his visit if there is any reason to make this desirable. Or he may get in touch with the department following his visit to discuss ways of handling a situation which he has discovered during the course of his visit.

What are our plans? We hope to expand the program further and to include a public health nurse as a full-time member of the staff. Her function would be to interpret the activities of public health nurses to the medical student and to effect closer liaison with nurses in the field. Expansion of the program to include the pediatrics clinic is an obvious move. We are making these plans and now have a full-time pediatrician available for this purpose. We are also interested in having psychiatric participation. We feel that it is important to develop a community viewpoint during the training of career psychiatrists. The problem of mental health is a large one, its solution requiring the active interest of psychiatrists in problems faced by communities and in resources available or needed to meet them. Present training is generally inadequate to meet this challenge. Again we are fortunate in having as the newly appointed head of the Department of Psychiatry a man who shares this viewpoint and with whom collaboration will be possible. A desire for collaboration is essential to successful operation of a program such as we have and such as we envision.

ACKNOWLEDGMENT—Our present program could not have been developed without the full cooperation of Grady Matthews, M.D., head of the State Health Department, of John Shackelford, M.D., director of local county health units, and the chairmen of the other departments within the School of Medicine at the University of Oklahoma.

A Screening Program for the Detection of Hearing Loss in Preschool Children

WILLIAM E. MOSHER, M.D., M.P.H., F.A.P.H.A., and ADFUR E. MAINES, M.D.

From the recounted experience it becomes clear that parents welcome hearing tests of the children. Recruitment was not a problem here.

Early detection of hearing loss is of extreme importance to the child, age two to six, who is passing through a critical period of development. Then the preschooler is learning to speak, to think, and to adjust to his environment, and a hearing impairment may present a serious obstacle to his intellectual growth and emotional development. Hardy has stated that there is no need for a child to arrive in school with a hearing impairment "that is undiagnosed, unmeasured, untreated and uncompensated for by early guidance and training." [1]

Authorities are agreed on the need for a case-finding program in this age group, but the stumbling block has been the method. Fowler has urged that health agencies, medical societies, schools, and other community groups provide parents with simple technics for testing hearing and stimulate them to test their preschoolers.[2] Others have advocated that the doctor make his office a screening hearing clinic for his private patients. Individual efforts of parents to uncover hearing impairments have not been particularly effective, as witness the latest report on hearing loss among children for the school year, 1947–1948, in this country. Based on replies to questionnaires, there were only 38 preschool children known to be wearing hearing aids in the United States. It was suggested that public health officials should study the needs of the preschool child.[3]

Mass testing of school children is well recognized as an effective method of discovering hearing loss, and the majority of school systems now have screening programs. Screening procedures have included the 4CA audiometer and more recently the pure tone machine has found increasing favor in school health circles. It has been possible to demonstrate that the number of school children handicapped by hearing loss varies between 0.5 per cent and 2.0 per cent with variations attributed to differences in testing technics and the acoustical environment.[4]

There have been but few attempts to apply the mass testing technics to preschool children used so successfully with school-age children. At the annual conference of Maternal and Child Health and Crippled Children's Directors in 1950, Hardy pointed out that case-finding programs among preschool children are rare because mass technics are difficult to apply to this age group.[5] Most of the data now available for this age

Dr. Mosher is deputy commissioner of health, and Dr. Maines is director of school health services, Erie County Health Department, Buffalo, N. Y.

This paper was presented before a Joint Session of the American School Health Association and the School Health Section of the American Public Health Association at the Eighty-Second Annual Meeting in Buffalo, N. Y., October 15, 1954.

group are the result of research projects undertaken largely by hearing centers.

The Erie County Department of Health was presented with an unusual opportunity to offer screening tests to preschool children as a by-product of the screening hearing program for school children. With the organization of the department in 1948, the hearing service in the city schools was reorganized and individual pure tone audiometric screening tests were made available to children in the second, fourth, and sixth grades. Three technicians were employed to provide testing services in the city of Buffalo schools and on request to rural schools of Erie County. This presented the department with a problem of assignment of these full-time employees during school vacation periods, so plans were made for a preschool audiometric screening program which was launched in the summer of 1951. The screening clinics were held in conjunction with other departmental services for preschool children—the topical fluoride clinics and the preschool registration day clinics. This provided a ready source of children in this age group for audiometer testing without burdening the nurses who organized these clinics with an extra activity.

Special Hearing Clinics—In 1953 and 1954, the department organized special hearing clinics, and these operated independently of other programs for the preschool child. Children were referred to the screening clinics by public health nurses, and in a few areas publicity in the local newspapers was attempted and proved productive. Despite warnings to secure appointments through the district health office, this was often disregarded, and the clinics were overwhelmed with preschoolers. In one large housing project, the distribution of a circular which briefly described the service resulted in far more candidates than could be handled by the technician in the time allotted. This offered convincing evidence of parental interest and indicated that simple technics such as news releases and circulars are effective in producing an adequate case load.

Methods

An adequate case-finding program should include a relatively sensitive and accurate screening test, a diagnostic test, an examination by a physician, and an appraisal for educational placement if indicated. The screening test adopted was the individual pure tone sweep check test which has been generally accepted by most authorities in the field of audiology. Our technicians were thoroughly familiar with the use of the Maico Pure Tone Audiometer which is the instrument used in the school systems served by the department. Audiometers used by the department include two D8 models and one FI model. The procedure utilized is as follows:

The technician first checks her machine to determine whether the tone at a 15 decibel level can be easily heard in the testing room. If the noise level is high, the machine is set at an intensity of 20 decibels, otherwise the sweep check is performed at the 15 decibel level.

The child is then instructed as to the sounds he will hear through the single receiver and is given an opportunity to become familiar with the tones. Our technicians usually have the child shake his head in the affirmative or negative to signify whether the sound is coming through.

The sweep check test is then given at 1,024, 2,048, 4,096, 512, and 256 cycles in that order. It will be noted that the screening test is restricted to the speech range. The interrupter is used frequently during the test, and if the child seems unsure, the technician returns to the 1,024 cycle tone.

If the child fails to hear two or more of the test frequencies in either one or both ears at the level selected for the

sweep check, a full threshold acuity test is given immediately following the screening check. The order of frequencies in the threshold acuity test follows the same pattern as in the sweep check with the addition of low and high frequencies beyond the speech range. The frequency is presented at a 15 db intensity and increased in 5 db steps to 30 or 40 decibels and then the intensity is decreased until the child indicates the tone is inaudible. This procedure is followed three times at each frequency. The tone is interrupted two to three times in testing each frequency to be sure the individual is responding properly.

If the child seems confused or tired, the testing is interrupted and after a rest the test is resumed. The audiogram is plotted at all frequencies from 256 to 9,747. Any child with a loss of more than 20 db at two or more frequencies within the speech range (256–4,096 cycles) in one or both ears is considered a verified hearing loss. Recommendations were made that the child with a verified hearing loss be seen by his family physician, otologist, or a hearing clinic.

Findings

During the period, 1951–1954, a total of 5,152 children was tested successfully by the audiometer technicians, and 914 of this group were examined as part of the preschool registrations in June while the remainder, 4,238, attended topical fluoride or special hearing clinics throughout the city and county (Table 1). There were 125 clinic locations during the four years and the most locations in any one year was 28. The number of clinic sessions which we are arbitrarily defining as one day (approximately six hours) totaled 240 with 29 in schools and the remainder in health offices.

In school locations the technician averaged 31–32 children a day while in health centers and other locations the average fell to 20 children. This included the time devoted to threshold tests and completing necessary audiograms as well as the screening sweep checks. The lower rate in health locations was largely due to inadequate case loads in clinics where the technicians were dependent on referrals from the dental hygienist. In a proper environment with sufficient referrals the technician was able to handle 35–40 children a day. This takes into consideration the time devoted to the uncooperative child as well as the time-consuming threshold tests.

Table 1—Children Screened in Preschool Hearing Program by Location of Clinic and by Year, Erie County (Including City of Buffalo)

Location	1951	1952	1953	1954	Total
School	310	——	360	244	914
Health Center	422	1,627	1,520	669	4,238
Total	732	1,627	1,880	913*	5,152

* 75 uncooperative children not included

Age Distribution—In the early years of the program the age and sex of the children screened were not recorded nor were data collected as to the number of unsatisfactory screening tests because of the inattentive or uncooperative child. The topical fluoride applications and the hearing testing program were directed to the preschool age group, but if the mothers were accompanied by older children it was our policy to give the occasional older child the same service. However, the bulk of the group admitted to the program was age three and one-half to five years.

It is our opinion that there was little variation in the age of the group screened from year to year. This is substantiated by our data on age distribution for preschool children receiving

Table 2—Number of Children Screened for Hearing Loss and Number Failing to Cooperate by Age—1954

Age	Number Tested	Number Failing to Cooperate	Total Attendance	Per cent Failing to Cooperate
2	14	10	24	41.7
3	90	27	117	23.1
4	359	22	381	5.8
5	363	12	375	3.2
6 and over	87	4	91	4.4
Total	913	75	988	7.6

fluoride applications in 1953 and also our experience in the hearing program in 1954. In 1953, 1,241 children were given topical fluoride treatments and 1,090 or 87 per cent were age three through five, and 111 (9 per cent) were six and over.

The data for the screening program in 1954 were carefully recorded and reliable information is available about the number tested successfully and the number of test failures. It is apparent from Table 2 that the age distribution is much the same as that experienced in the topical fluoride program of the previous year with 873 (88 per cent) in the age group, three through five years, 91 (9 per cent) six and over, and the remainder under three.

Of the group referred for testing in 1954, the technicians were able to screen 988 (or 92.4 per cent) successfully with the highest percentage of failures in the groups of two- and three-year-old children. Most of the failures were attributed to inattentiveness, short attention span, or uncooperativeness. It was the impression of the technicians that the majority of failures in the three-year-old group were under three and one-half. Upper respiratory infections were not a serious problem when the screening program was in progress because of the low incidence of colds in the summer months.

Verified Hearing Loss—The number of children with a verified hearing loss discovered as a result of the screening procedure and confirmed by the threshold test totaled 63 or 1.2 per cent of the 5,140 children tested. There were 53 under six years of age and 10 were age six (Table 3). Losses in children over six years were not included. The group was comprised of 38 males and 25 females. Of the 63 children with verified hearing loss, 59 were referred to their family physician, private otologist, or hospital hearing clinic. No information is available as to the disposition of the remainder.

Three of the hospital clinics repeated audiograms on referrals and, of course, this is a routine practice in the offices of the otologists in this city. However, we have no information as to the number of children who were given a recheck audiogram by clinics and physicians, with the exception of the 1954 cases

Table 3—Age and Sex Distribution of Children with Verified Hearing Loss 1951–1954

Age	Male	Female	Total
2	1	0	1
3	2	2	4
4	16	10	26
5	13	9	22
6	6	4	10
Total	38	25	63

Table 4—Confirmation of 59 Children with Verified Hearing Loss Referred for Diagnostic Appraisal by Private Physicians and Hearing Clinics 1951–1954

Items	Hearing Clinic	Family Physician	Total
Number examined	35	24	59
Number with normal findings	5	2	7
Number with medical recommendations for treatment or educational placement	28	16	44
Number recommended for supervision only	2	0	2
Number with no report available	0	6	6

examined at the new Buffalo Hearing and Speech Center where each child is given a recheck audiogram. Bone conduction and other tests are performed when indicated. All children referred to private physicians or clinics were given an examination of the ears, nose, and throat.

Of the number examined, 35 were admitted to one of five clinics, four located in hospitals, and the other at the Buffalo Hearing and Speech Center (Table 4). The remaining 24 were examined by general practitioners or private otologists. There were medical and educational recommendations for 44 cases; two were recommended for further observation; and seven were reported to have normal findings. We were unable to secure reports of the private physicians' findings in six cases.

Conductive deafness was the diagnosis in 30 cases, and two were found to have nerve deafness. Other causes of hearing loss included allergy—three; wax—eight; and foreign body in ear canal—one. The most common recommendation was the removal of tonsils and adenoids. With the exception of one deaf mute hearing loss was not suspected by the parents and the Health Department in this instance was instrumental in referring the child to a hearing clinic and later a hearing aid was secured. Another five-year-old mute who was not under medical care was referred to St. Mary's School for the Deaf for further study.

In 1954, an effort was made to recheck all children found to have a verified hearing loss in the previous preschool screening programs. If they failed to report to clinics at the Health Department, the technicians made a home visit to perform the threshold test. Of the 52 children tested in the period, 1951–1953, it was possible to secure threshold tests from 39 in 1954. Of this group, 28 children failed to hear two or more tones (not restricted to speech range) at the 20 db level. An additional five cases had abnormal audiograms but were not "verified hearing losses" as defined in this paper. Six children were found to have normal hearing. Thus, there was marked improvement or complete recovery in 11 cases suggesting a temporary loss. The majority (72 per cent) were found to still have a significant impairment at the time of the recheck audiogram in 1954.

Discussion

In this preliminary report of our experience with pure tone audiometry screening of preschool children, we recognize the many variables involved in the field trials and do not present these findings as an index of the prevalence of hearing impairment in the general population of children, age three through six. First, we decided on a rough criterion for the selection of hearing impairment, and undoubtedly a number of children were missed with minor hearing loss who might have been discovered if we had used a level of 10 db or 15 db. Our decision to use the 20 db level, restricted to the speech range, was decided upon because of the high noise level in many of the testing rooms and the difficulty of securing cooperation from young children.

In a series of apparently normal children, age three–six, Westlake found the individual pure tone audiometer test to be generally reliable, although repeated threshold tests showed a wider variation than would be expected in a group of older children.[6] He reported decibel changes of more than 15 were uncommon even in the three-year-old group. Variations of as much as 10 db were reported in only 58 of 400—four- and five-year-old children. This variability attributed to poor auditory discrimination in this age group affects a relatively small proportion of the children. It is our opinion that this variability should not invalidate the testing procedure if the decibel level for screening is of sufficient intensity to avoid selecting large numbers of false-positives. At a 20 db level a deviation of 10 db would have little effect on the findings.

The question of the reliability of audiograms under field conditions deserves further study. In 1954 repeat threshold tests under ideal conditions at the Buffalo Speech and Hearing Center compared very favorably with the results of our field clinics. In our opinion this method is both practical and effective and can be performed with sufficient accuracy to isolate a significant percentage of hearing losses among the test group if trained technicians are used.

Parental recognition of hearing loss in children under six needs to be encouraged, but even keen observers are limited in their ability to recognize any but moderately severe impairments. In the Astoria Study the teachers were asked to select children with symptoms of hearing loss and they failed to identify 84 per cent of the cases found to have hearing loss by the audiometric testing.[7] The family physician is also at a disadvantage because he must also rely on observation, tuning forks, and other simple technics which are not very sensitive. Audiometers are found only in the offices of the otologists who, unfortunately, see a limited number of referrals. The galvanic skin response technic described by Bordley and Hardy is undoubtedly more accurate in the very young child, but it is not adaptable to mass testing of the population.[8] Speech audiometry has definite limitations because of the language problems in this age group, the limited testing range, and the large number of referrals for retests.

Play audiometry presents problems in the field unless very simple technics are used, such as described by Barr who asked the child to move marbles or Chinese checkers on hearing the pure tone.[9] This was found to be successful with children age three to six. In regard to more elaborate mechanisms, such as the "peep show," this would be difficult to transport to the number of locations needed in a community program. Our technicians are convinced that they secure excellent cooperation without utilizing toys and other stage effects. Wishart also reported success in testing preschool children without the use of props.[10]

The significance of the results are also dependent upon the validity of the audiologic and otologic recommendations. Facilities for repeating audiograms were not available in some of the hospital clinics and in many of the physicians' offices. Recommendations by physicians and clinics not equipped to repeat threshold tests were dependent on our audiogram and their diagnostic examination. With the establishment of the Buffalo Speech and Hearing Center and another to be developed at the Children's Hospital, it will be possible to standardize our study program in the future. Diagnostic evaluations will be made by well equipped hearing centers staffed by an audiologist and otologist. It is also planned to follow many of these children for a number of years because of their availability in school systems to which our technicians are assigned.

From our experience it would appear that there is sufficient interest among parents to make the effort to have their children tested at community screening clinics. It is also apparent that this is a valuable way of utilizing school audiometer technician time during the summer and other vacation periods. Health departments planning a similar program on a larger scale might be interested in a cost analysis for the year, 1954.

Nursing time devoted to the program was minimal as the message about topical fluoride and hearing clinics was made part of the content of her visit for well child supervision. The nurses and their clerks arranged clinic appointments by telephone or post card which requires relatively little time. No assistance was rendered the technician at the time of the clinics. Thus, the salaries of the technicians represent the major expenditure of the program. The average salary of the technician is $271.39 a month and total time devoted to screening children in 1954 was seven weeks. The cost in technician time for testing 913 children and identifying 11 cases with a verified hearing loss was $474.90 or $43.17 for each loss discovered. If clinic attendance of 35 children a day could be maintained, it would be possible to test about 1,200 children in the same period. This should be possible and would result in a better return for each dollar expended.

A decision was made to revise the hearing program in the schools as a result of our favorable experience with this age group. The new schedule calls for testing children on entering school, whether in kindergarten or first grade. There is no longer any justification for delaying the initial screening of school children until the second grade. Although testing this age group would be more time-consuming, the advantages of early detection of hearing impairment outweigh the possible limitation of the program in the older age groups.

Summary

Screening hearing clinics were organized in health department locations in Buffalo and rural Erie County. Some of the clinics were held in connection with the topical fluoride program for preschoolers and others were held in schools on registration day in June. A few were publicized and developed as special hearing clinics. In them 5,152 children, age two to seven, were screened for hearing loss by an individual sweep check test with a pure tone audiometer. Approximately 90 per cent of the group were under six years of age.

Children with a loss in one or both ears at two or more frequencies within the speech range (20 db level) verified by a threshold test were referred to a hearing clinic or private physician. Of the children, 63 were found to have a verified hearing loss and 59 of these were examined by their family physician, private otologist, or clinic. Medical and educational recommendations were made for 44 cases; two for further

observation and seven reported to have normal findings.

The hearing clinics were an effective and relatively inexpensive technic of discovering hearing impairment in the preschool population.

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Hospital Administration Institute at Cornell

Cornell University announces plans for the new Sloan Institute of Hospital Administration to be centered in the Graduate School of Business and Public Administration. The governing board of the new institute will consist of the heads of the schools of the university directly concerned in organizing the proposed interdisciplinary curriculum such as the College of Agriculture, the Schools of Nutrition, Hotel Administration, and Industrial and Labor Relations, as well as the New York Hospital-Cornell Medical Center in New York City. An Advisory Committee for the institute, headed by Raymond P. Sloan, president of the Modern Hospital Publishing Company, will advise on the organization and teaching and research programs.

The new unit's principal aim is reported to be "to train a select group of students for careers in hospital administration." Admission will be limited to about a dozen "highly qualified applicants" annually. The program of study will require two years of intensive study on the campus at Ithaca and a year's residency in an appropriate hospital. The course will lead to one of two possible degrees—Master of Public Administration in Hospital Management or Master of Business Administration in Hospital Management.

The new institute has been made possible by a grant from the Alfred P. Sloan Foundation to the university of three-quarters of a million dollars which includes "a generous provision for fellowships," "to insure that only the best qualified will be admitted to the course." The first students will be admitted to the program for the September, 1956, term; research and other activities will start as early as possible.

Salmonellosis of the Newborn with Transmission by Delivery Room Resuscitators

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Each one of us, however distant from the delivery room his active concerns may lie, will find that this paper has something to say to him.

Although much is known about the epidemiology of infectious diarrhea occurring during the neonatal period, its etiology still remains obscure.[1, 2] Various bacteriologic agents have been incriminated in specific outbreaks, while viral etiology has been postulated in others.[3] Recent studies have indicated that organisms of the Escherichia group may be of significance in infectious diarrhea of the newborn.[4]

Unfortunately, laboratory methods for the identification of the Escherichia group are less well advanced than the Kauffmann-White schema for typing of Salmonella organisms.[5, 6] The accuracy of the latter method is of distinct value as an epidemiologic tool in the investigation of outbreaks. It is as important to isolate and study the Escherichia type involved in outbreaks among the newborn as it is the Salmonella types.

It is acknowledged that Salmonella nursery outbreaks are not of frequent occurrence. In Massachusetts, for example, only three such outbreaks have been reported prior to 1952.[7] Nevertheless, their detailed study and investigation should afford valuable information concerning the epidemiology, not only of Salmonellosis of the newborn, but also of the greater segment of the problem of infectious diarrhea of the newborn.

It is proposed, in this discussion, to present the epidemiologic and bacteriologic findings of two outbreaks among newborn infants in which an organism of the Salmonella group was the etiologic agent. Since the mode of spread in the two outbreaks appeared to be similar, a detailed account of the epidemiologic investigation of one will be presented.

All primary isolations of the causative agent were made by the Diagnostic Laboratory of the Massachusetts Department of Public Health. The organisms were typed by the New York Salmonella Typing Center. In each outbreak cultures were obtained of all exposed infants, of mothers, and of nursery and delivery-room personnel. The investigation was extended into the households of the exposed infants and, wherever possible, cultures of family contacts were obtained. The cooperation of the local health departments was sought in

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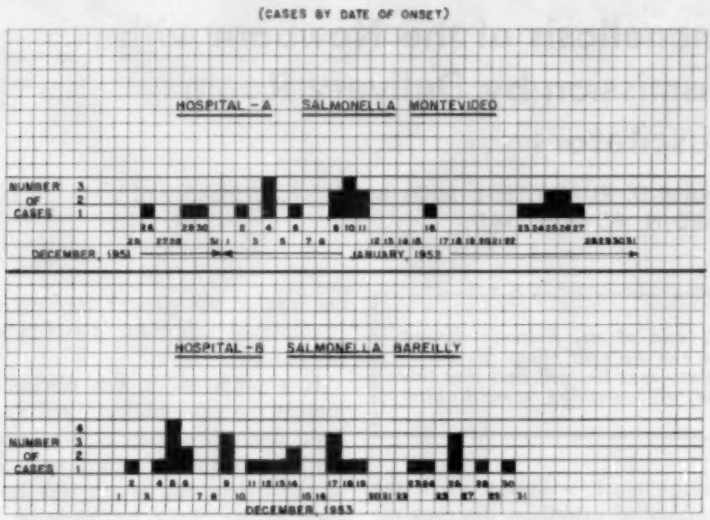
This paper was presented before a Joint Session of the Engineering, Epidemiology, Food and Nutrition, and Laboratory Sections of the American Public Health Association at the Eighty-Second Annual Meeting in Buffalo, N. Y., October 14, 1954.

Figure 1—Salmonella Nursery Outbreaks



the procurement of cultures of infants discharged from the hospital, as well as of the family contacts.

Epidemiology

On January 11, 1952, a report was received from Hospital X regarding the admission to its pediatric service of a three-week-old infant ill with diarrhea. The infant had been delivered at Hospital A. Investigation at Hospital A revealed three additional cases in the newborn nursery. The three patients were isolated and the nursery was quarantined. A new nursery was improvised for subsequent admissions and interchange of personnel with the exposed nursery was not permitted.

Examination of the records showed that 15 infants had been ill with diarrhea since December 26, 1951. The distribution of cases by day of onset is shown in Figure 1. It will be noted that between January 11 and January 22, only a single additional case occurred. During this time, the original nursery was repainted and all its equipment thoroughly cleaned and, wherever possible, sterilized. The delivery and labor rooms and adjacent service areas were similarly treated. Numerous cultures of equipment and solutions in the nursery and delivery room were negative.

When a series of seven additional infants in the improvised nursery became ill between January 23 and January 27, the obstetrical and nursery units were closed to new admissions and careful study of the possible mode of spread was reinstituted.

Analysis of the interval between birth and onset of symptoms (Table 1) suggested that infection may have occurred at or shortly after delivery. It was found that the sole piece of equipment with which newborn infants came into direct contact and which had not been sterilized was a resuscitator used for the administration of oxygen and carbon dioxide and for mechanical suction. It was the practice in this hospital to apply mechanical suction to the upper respiratory tract, esophagus, and stom-

Table 1—Salmonellosis of the Newborn

Outbreaks A and B Interval Between Birth and Onset				
Interval Days	Babies Ill Hospital A		Babies Ill Hospital B	
	No.	Per cent	No.	Per cent
1	5	22	0	0
2	10	43	12	43
3	5	22	8	29
4	0	0	6	21
5	2	9	2	7
6	1	4	0	0
Total	23	100	28	100

ach routinely following delivery of each infant.

This apparatus had not been cultured during the original investigation. However, when the second wave of cases appeared, it was recognized as a possible source of contamination. S. montevideo was isolated in pure culture from fluid in the water trap, as well as from the face mask of the resuscitator. S. montevideo had also been recovered from 11 of the infants involved in the outbreak.

Study of the resuscitator revealed that no provision had been made to prevent a contaminant in the water trap fluid from being introduced into the atmosphere by means of the air exhausted from the apparatus. It was apparent that contamination of the fluid in the trap had resulted in a spray of S. montevideo organisms into the atmosphere of the delivery room when the resuscitator was being used for suction.

Study of the second outbreak, which occurred approximately one year later in Hospital B (Figure 1), revealed a similar series of events. Again a contaminated resuscitator appeared to be the vehicle of spread. S. bareilly was recovered in pure culture from the water trap fluid of the resuscitator, as well as from infants involved in the outbreak. In both hospitals the incidence of the illness among exposed infants was high (Table 2), being 52 per cent in the first and 82 per cent in the second, suggesting widespread distribution of the infectious agent.

In spite of the high clinical attack rate in both outbreaks, subclinical infection of exposed infants was not a significant factor. A single instance of inapparent infection was noted in outbreak A and two in outbreak B. This finding contrasts strikingly with the results of cultures of household contacts to the

Table 2—Summary of Three Salmonella Outbreaks Among Newborn Infants

	Hospital A	Hospital B
No. infants exposed	44	34
No. infants cultured	38	34
No. infants with clinical infection	23	28
No. infants with subclinical infection	1	2
No. infants with positive culture	11	26
No. escapes	20	4
Clinical attack rate	52%	82%*
No. families with secondary infection	3	13
Total number of secondary infections among household contacts	7 (2 adults, 5 children)	22 (16 adults, 6 children)
No. of subclinical secondary infections	7 (2 adults, 5 children)	19 (14 adults, 5 children)
No. of clinical secondary cases	0	3 (2 adults, 1 child)

* One death occurred

Table 3—Cultures of Resuscitators

Sample Hospitals				
Hospital		Catheter	Face Mask	Fluid in Bottle
A*		Pseudomonas aeruginosa		
B*				B. coli (1,100 colonies per 0.1 ml of fluid) Pseudomonas (3,850 colonies per 0.1 ml of fluid)
C*			Pseudomonas	Pseudomonas
D	Private Floor †	(Hemolytic staphylococcus aureus		Hemolytic staphylococcus aureus
		(E. coli		E. coli
		(Pseudomonas aeruginosa		Pseudomonas aeruginosa
	Nursery	(E. coli		E. coli
		(Staphylococcus albus		Staphylococcus albus
	Semi-private	(B. subtilis		B. subtilis
		(Staphylococcus albus		Staphylococcus albus
	Ward	(Streptococcus viridans		Streptococcus viridans
		(Hemolytic staphylococcus aureus		Hemolytic staphylococcus aureus
		(E. coli, B. subtilis, Pseudomonas aeruginosa		E. coli, B. subtilis, Pseudomonas aeruginosa
E*		P. vulgaris		

* Delivery room resuscitators
† Ward resuscitators

primary cases. In outbreak A of a total of 16 cultures of household contacts, positive specimens for the etiologic organism (S. montevideo) were revealed in seven (two adults and five children). The results were similar in outbreak B where 69 household contacts were studied. Of this number, 22 contacts (16 adults and six children) were secondarily infected, 19 with no signs or symptoms of clinical disease; only three contacts, two adults and one child, reported mild gastrointestinal symptoms. There was no evidence to indicate that maternal infection had taken place in the hospital rather than at home. Of the 16 adults secondarily infected in outbreak B, six were fathers and 10 were mothers.

It is apparent from Table 1 that in both outbreaks infants were infected shortly after birth. In outbreak A, 15 out of 23 babies (66 per cent) became ill within two days of delivery, while 20 or 87 per cent had an onset within three days. Similarly, in outbreak B, 12 babies out of 28 (43 per cent) became ill within two days of delivery, while 20 72 per cent within 72 hours of birth.

Discussion

It is not unlikely that the high attack rates, noted in outbreaks A and B, resulted from widespread dissemination of the causative organisms in the air exhausted from the resuscitator. The hazard of contaminated fluid to the delivery room environment is quite apparent.

In order to gain additional information regarding resuscitators, a series of cultures were taken during the course of regular hospital inspections. As noted in Table 3 it was found that so-called "sterile" catheters are frequently contaminated with a variety of organisms. Aspiration of the upper respiratory tract of the newborn infant was found to be common practice, using catheters which had been attached to resuscitators for varying lengths of time. Such practice was frequent in delivery rooms, despite the availability of adequate numbers of sterile catheters in supply closets.

It was revealed that contamination of resuscitator trap fluid was not an infrequent occurrence. A large variety of organisms (Table 3) was isolated by culture. When quantitative analyses were undertaken, high counts were obtained. On several occasions cultures, obtained by using 0.1 ml of trap fluid, resulted in such heavy bacterial growths that accurate counts were not possible.

It also was found that, although the water traps were sometimes washed after use, they were rarely sterilized. In general, delivery room supervisors were completely unaware of the possibility of bacterial contamination of the delivery room environment by infected trap fluid. Similarly, manufacturers of resuscitator equipment were unaware of this problem, which has now been brought to their attention.

Our studies also revealed that attention is rarely paid to the possibility of spread of infection by face masks. Cultures of the latter also showed bacterial contamination. In several instances, crusted mucus and debris on face masks indicated lack of care on the part of delivery room or nursery personnel.

The marked susceptibility of the newborn infant to organisms, which are ordinarily less pathogenic or nonpathogenic to older children or adults, must be constantly borne in mind. In the two outbreaks presented, it was demonstrated that a Salmonella organism, responsible for widespread clinical infection among exposed newborn infants, produced inapparent infection in older children, adults, and household contacts of the primary cases. A similar mechanism may be postulated with respect to Escherichia outbreaks among newborn infants.

Summary

Two Salmonella outbreaks among newborn infants are presented, the etiologic agents being S. montevideo and S. bareilly, respectively. In both outbreaks, a high clinical attack rate among exposed infants (52 per cent and 82 per cent, respectively) indicated widespread dissemination of the etiologic agent. Recovery from the water trap fluid of the delivery room resuscitator of the causative organism in each outbreak suggested contamination of the atmosphere of the delivery room by the air exhausted from this apparatus.

In both outbreaks the interval between birth and onset of the illness was short, being three days or less in 87 per cent of the cases in one outbreak and 72 per cent in the second.

Bacteriologic study of resuscitating apparatus in a sample of hospitals revealed frequent contamination of catheters, face masks, and water trap fluid by a large variety of organisms, suggesting the need of greater care on the part of delivery room supervisors and hospital administrators.

A study of household contacts showed spread of infection to seven persons in outbreak A (44 per cent of the contacts studied) and 22 persons (32 per cent of the contact studied) in outbreak B. In spite of high clinical attack rates among exposed newborn infants in the two outbreaks, secondary infection among household contacts was associated primarily with inapparent or subclinical infection. Marked susceptibility to or-

ganisms of the Salmonella group may be inferred among newborn infants as opposed to older children and adults.

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Health Task Force Report on State Relations Issued

The report by the Commission on Intergovernmental Relations was submitted to President Eisenhower on June 28. According to the summary by the Washington Report on the Medical Sciences, this report deals briefly but sympathetically with federal assistance in public health projects, hospital construction, research and professional training programs. These undertakings are discussed in greater detail in the published report of the Commission's Public Health Advisory Committee. Dr. Franklin D. Murphy, chancellor of the University of Kansas and former dean of its Medical School, headed the 14-member committee.

The Murphy committee agreed that public health grants by the federal government to the states are wise and desirable and then set down certain fundamental principles. Among these are that primary responsibility for meeting health problems rests with the community; that aid grants should supplement, not supplant, local effort; that community need is the first criterion for grants-in-aid; that federal help should be of a temporary nature; that assistance funds should be matched, but with flexibility of the formula; that evaluation of the programs is essential.

The Advisory Committee recommended the continuance at the present level (about $57 million per year) of federal grants to states for maternal and child health, tuberculosis, venereal disease, cancer and heart control, and general public health activities. It endorsed the Hill-Burton Hospital Program, but urged that voluntary health agencies be called upon for counsel before Congress continues the program beyond its present expiration in 1957. Federal financial support of medical research was heartily endorsed. In the matter of professional training, the committee recommended establishment of public health fellowships but avoided taking a stand on subsidies for medical schools, pending "an entirely objective study of this problem." Like the Hoover Commission and its Medical Task Force, the Murphy Committee favored the creation of a federal health council to coordinate all services.

One of the members, Dr. Fredrick J. Stare of the Harvard School of Public Health, spoke out for federal grants to schools of medicine and public health.

Another member, Dr. Theodore Klumpp, president of Winthrop-Stearns, submitted a separate memorandum on apportionment and administration of research grants.

Herman E. Hilleboe, M.D., President of the American Public Health Association and New York State Commissioner of Health, was a member of the committee.

Helping Hand in Industrial Hygiene

BERNARD D. TEBBENS, Sc.D.

Principles applicable to the successful export of industrial hygiene concepts apply to other public health disciplines in some degree; hence many among us will find this "private" discussion provocative.

You undoubtedly know that this year, as has been the case in past years, several of our colleagues are stationed abroad as technical advisers in industrial hygiene. These individuals are numbered among the ranks of one of our important export commodities—technical manpower.

One reads repeatedly of technical assistance missions—under various auspices—to many nations. Only in small part are these composed of industrial hygiene missions; yet, for us the number is significant, for we are a small group, spread thin even on our home grounds. In our present position of leadership in a world shrinking spatially, but expanding in cultural relations, we have the obligation to play our roles before many audiences. By so doing we may discover over a period of years the extent to which our technology is exportable, or at least acceptable, in others' viewpoints. We might by this means and over a period of time similarly discover some concepts with which to enrich our own philosophies.

Technical guidance in industrial hygiene provided abroad by the United States excludes the activities of such multilateral agencies as the World Health Organization and the International Labor Organization. These latter also have a very important part in health activities, but let us presume to cover only that part of the field of which we are capable within the space limitations.

It would be gratifying to be able to say that our generation is the one which has grasped this unusual opportunity for developing a pattern of cultural dissemination. History denies us this vanity, however; United States' enterprise successfully sent technical industrial hygiene assistance abroad many years ago. It was industrial hygiene, though not spoken of in those words, which made possible, for example, the construction of the Panama Canal [1] in the early years of this century. This great project had failed until sanitary control of the working environment made feasible the human occupancy and energy conservation required in a tropical area. Dust control was then secondary to restraint of another aerial traveler, the mosquito. Nevertheless, the approach to disease prevention proved eminently successful and we accept it as our own—determine the etiologic agent, learn its characteristics, and control it on its own ground.

One need only review the comments of speakers at the First Industrial Tropical Health Conference of 1950 [2] to gather more examples of a half century's experience with technical assistance in industrial hygiene, an activity that has been a primary requirement in the

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This paper was presented before the Industrial Hygiene Section of the American Public Health Association at the Eighty-Second Annual Meeting in Buffalo, N. Y., October 12, 1954.

successful development of numerous foreign ventures in commerce, agriculture, and mineral exploitation. But aside from this urgency of tropical hygiene, there emerges from the remarks of several speakers the ideas perhaps best expressed by Page.[2, p. 100 ff] Speaking of contemporary industrial development in foreign lands he summarizes, "The road ahead should be one of cooperation between competent governmental authorities, professional associations, and private industry, wherever it operates, to make possible the expansion and improvement of sanitation and public health systems. . . ." This statement relates to his belief that paternalism abroad in industrial and community health has grown beyond its intended bounds and reached the end of its path economically. He continues, "The national doctor should be encouraged to participate in the preventive and constructive aspects of medicine as applied to human relations in industry." We need only add the encouragement to participate of other professional groups to complete the picture of our present concept of technical assistance in industrial hygiene.

Export of technical assistance in any field is an attempt to disseminate one small seed of our own culture. While it may grow strikingly in the fertile ground of an immediate need, it also may grow overwhelmingly or possibly break down completely without the checks and balances of other parts of the pattern from which it was derived. The social and economic factors that govern our own activities may be so different in another country as to lead to new and unexpected troubles.

Thus, in our technical assistance in industrial hygiene, are there not basic alternatives for encouraging its successful and lasting fruition in nations less developed than our own? The first is to ascertain and try to build in with that assistance all the balances and concomitant institutions that our own social order provides. The second is to fit our technical assistance into the existing pattern of the recipient and encourage whatever variations of our own technic may be necessary for it to be assimilated and fully developed.

The latter course is difficult, time-consuming, and undramatic. Yet I believe it is the course to which we are currently committed. For it is in the last few years that technical assistance in industrial hygiene has been coupled on a wide scale with training programs, that is the training of qualified foreign individuals in our specialty. The operation and implications of this course of action I shall try to illustrate from some personal experience.

Industrial hygiene technical assistance in Latin America, sponsored by the Institute of Inter-American Affairs, began in 1946 in Bolivia. The project resulted from recommendations of the Magruder Commission,[3] which in 1943 recommended among other things: "That the Bolivian Government invite the Government of the United States to send to Bolivia specialists in safety engineering and industrial hygiene, to advise as to safety and industrial hygiene methods in the mines; and that the Government of the United States invite the Bolivian Government to send suitable persons to study safety engineering and industrial hygiene at educational institutions in the United States." This recommendation reinforced the following statement found in the body of the report: "We suggest, also, that not the least of the functions of these imported specialists (from the United States) should be the training of Bolivian personnel to carry on the work in the various fields on their own responsibility."

Through the IIAA and its bilateral cooperative agency in Bolivia, the Servicio Cooperativo Interamericano de Salud Publica, the project went forward. Among the concessions that had to be

made immediately was recognition that labor problems in that country were dealt with through a labor department official. Eventually, the project operated through the Ministry of Labor rather than the Ministry of Health.

As I review a final report, made in 1947 after 18 months of effort there, I realize that the several technical advisers laid out a bold and ambitious program. It was only after several months on the job that we encountered and recognized some of the situations to which we were not accustomed. We were helped over many hurdles by our Bolivian professional trainees. For example, our proudly displayed proficiency in Spanish was sometimes useless in areas where the miners knew only an Indian dialect, but one or more of the trainees could always manage conversation. For example, a carefully written and Spanish translated pamphlet on industrial health and safety practices was of little use to a largely illiterate working force, but a few pictorial posters prepared by a national engineer had appeal. As another example, one of our trainees was forcibly removed from La Paz during a political upheaval, but another trainee learned his whereabouts so we could institute action for his return. In any of these examples our concept of technical assistance required modification to fit an unfamiliar pattern.

Some hurdles could not be negotiated, at least not immediately. As an illustration of this I cite the fact that the workers and especially the miners chewed coca leaves on and off the job, refusing without compromise to forego this centuries-old habit. To the extent that this practice dulled response to danger it was certainly unsafe in a place of work. Bolivian physicians, labor chiefs, managers, and political leaders could only point out what was practically an axiom there, "no coca, no work."

None of the 40 training applicants from among whom six were selected had had previous experience in industrial hygiene and safety. The first qualification sought was professional background in engineering or medicine. Beyond this our assessment of their interest and native ability was the criterion of selection. These men were paid by the SCISP during their inservice learning. Two more engineers, supported by the mining companies of which they were employees, were later accepted as trainees. After about a year of on-the-job experience two of the engineers and the two physicians received grants for study in the United States. During the operation of the project the inservice training of all was similar. They participated in investigations of industrial health and safety practices with the several technical advisers. Under supervision they wrote up the reports, made the observations, did the dust and ventilation studies, and participated in recommendations and in return visits.

It is on the good judgment of these trainees that we depend for ultimate success of our assistance in industrial hygiene. They are the persons who can interpret our skills, apply those which are applicable, and train others. They are the ingredient of technical assistance which makes possible the translation of technical skill to its application in a different social and economic environment, a different culture. Within our own environment you and I do this by a rational process which is almost automatic. Similarly, the individuals of another nation may weld technic to social structure because of their intimate contact with that structure. They are best able to understand the strengths and weaknesses of the people and their institutions, the thoughts and aspirations, and the economic limitations of their own actions.

It is incumbent on the technical adviser who goes abroad to himself try to understand where the limits lie to

application of technic. And those of us who stay home should recognize that many variables in the daily routine of people profoundly affect their acceptance of our technic. It is insufficient on our part to point to some strange custom as a deterrent to a public health program—to make our assistance valid we need rather to understand the custom and fit within its framework.

Training in industrial hygiene practice is clearly an important part of this method of assistance. One example of an outstanding advance in method of training is the development of a demonstration center for industrial hygiene in Lima, Peru. Staffed by several technicians, this training center for Latin American nations has operated for some five years. Several trainees are in residence there all the time, engineers, physicians, and chemists, with special emphasis on the latter category. Not only does there exist in Peru an active industrial hygiene program, based at Lima, but also there is an established, well equipped industrial hygiene laboratory.[4, 5] Nationals from other Latin countries need not be overwhelmed in their training there by such a fundamental problem as that of language. Chemists especially may become accustomed to working with essential equipment which is or can be made available without interminable delay. They can, in short, have excellent inservice training in a familiar environment. The environment to which they will return will be different in degree, but not in a general pattern. The scheme is comparable to interstate training in the United States, as contrasted to the idea of training somewhere in the Phillipines a person who will work in Texas. By latest count 17 chemists from five countries have had experience in industrial hygiene technics in the new center in Lima. From this center there fans out a consultation and information service for laboratory procedures and evaluations, library and educational advances, as well as administrative and other aspects of complete industrial hygiene activities.

A recent type of project of the Foreign Operations Administration in the field of public health may be a still more advanced training operation which could eventually affect industrial hygiene. Its purpose is to provide technical assistance in developing schools of public health on a world regional basis. The administrative arrangement is that a United States school or group of schools provides consultants in various technical categories to a foreign university which with its own national manpower inaugurates or amplifies a curriculum in public health. This type of assistance appears to be an extension of the Lima, Peru, idea previously mentioned. That is, the United States assistance provides technical direction for an integrated teaching program by foreign nationals. The latter by their own thought and research may adapt skills to their own set of conditions and promulgate these to students within an environment favorable to ultimate use. Some of the faculty of such schools are to be exchanged to the United States for limited periods.

This does not imply that our training in industrial hygiene within the United States is lost on foreign students. Many have come and have learned much of our technic, as well as our culture. This experience, coupled with inservice training in their own countries, provides a mechanism for transplanting the skills into a medium where they may grow far beyond our own expectations. We should not be surprised, however, when an individual so trained cannot immediately make a significant segment of his countrymen conscious of the need for his newly acquired skills.

Evidence that our current methods of technical assistance in industrial hygiene are making progress is reflected

by some of the successes mentioned by Bloomfield.[6] The accomplishments, rarely spectacular, result from intense effort to adapt the operation of an industrial hygiene program to the circumstances encountered. A significant question which might be posed here is, "At what point in the course of such progress should technical assistance come to an end?"

The ultimate criterion of accomplishment must be that this public health program continues to progress after the withdrawal of assistance. In at least one instance this acid test apparently indicated a partial failure in Bolivia. According to reports [6, 7] industrial hygiene there had to get off "to a second start" in 1952. In that country the original project of assistance was established for a two-year period and was therefore terminated late in 1947. When an IIAA program was reinstated in 1952 three of the eight earlier trainees were still in government agencies and associated with industrial hygiene, but were under great handicaps for financing travel or any other activities. Two of the four who had come to the United States on study grants were in other occupations. An active program of industrial hygiene did not exist.

These men, together with some additional trainees, are now the core of a revised administrative arrangement which among other things reincorporates industrial hygiene within the health department.[7] One of our colleagues is there now as technical adviser. The crippling of the program on withdrawal of technical assistance earlier was partly the result of loss of financing. The same result might easily recur were assistance to be withdrawn now. It seems that economic and political stability are minimum requirements for achieving true success. Undoubtedly, the factors which affect the success or failure of industrial hygiene vary in different countries and are not sufficiently recognized to allow prediction of the outcome. According to reports [5, 6] active industrial hygiene programs are in progress in Chile and in Mexico with technical assistance limited to the consultative help emanating from Peru. By implication these nations have developed stable programs which will progress without close attention and external know-how.

The scope of technical assistance in industrial hygiene is expanding. In Latin America there are currently five missions with more in prospect.[5] Concerning another part of the world, Heimann, Moskowitz, et al.,[8] have discussed the results of a Technical Cooperation Administration project in India. WHO and ILO include industrial hygiene and its specialists in their activities.[9] Students of many nationalities take our university offerings under several auspices and participate in in-service training in public agencies throughout the United States. In an allied field the U. S. Department of Labor through FOA carries on extensive cooperative projects in industrial safety practices and standards in India, Israel, Indonesia, and the Phillipines, as well as in Latin America.[10, 11]

We are undoubtedly accepting our obligations in this process of cultural dissemination. What we must remember is that the basic ingredient is the activity of people; that technic is only a means to an end. I would venture to say that a useful project in which we might all participate would be the encouragement at an appropriate time of one or more professional associations in foreign regions so that people—those interested in industrial hygiene and others in allied fields—could meet occasionally for their mutual encouragement. Such an organization might or might not be patterned after our own professional association. Its purpose, however, would be straightforward—to provide a meeting ground for people having a common interest in

health for their own encouragement and advancement of information. This would help round out the technical assistance program for the Latin American countries, for example, where 62 professional nationals [5] are now engaged in industrial hygiene and where more will be at work as industrial development stimulates further activities along the lines of our interest.

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Institutes on Care of Premature Infants

The Institutes for Physicians and Nurses in the Care of Premature Infants at The New York Hospital–Cornell Medical Center, under the sponsorship of the New York State Department of Health and the U. S. Children's Bureau, are designed to meet the needs of physicians and nurses in charge of hospital premature nurseries and special premature centers, and of medical and nursing directors and consultants in state and local premature programs. The program for physicians is of two weeks' duration and that for nurses of four weeks.

Institutes for 1955–1956 are scheduled to start on September 26 and November 21, 1955, and on January 30, 1956. In addition, if the number of applicants is sufficient to warrant it, institutes will also be scheduled beginning April 2, and May 21, 1956. The attendance at each institute is limited to six physician-nurse teams. Participants pay no tuition fee and stipends are provided to help cover expenses during attendance at the institute. Early application is essential since plans are contingent on the number of applications received. Additional information, Box 143, Institute in the Care of Premature Infants, The New York Hospital, 525 East 68th St., New York 21, N. Y.

Completeness and Accuracy of Medical Information Recorded on Birth Certificates

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Other services than MCH might take to heart a concluding comment in this paper: "The medical information requested (on birth certificates) should be such that it can reasonably be secured by the hospital staff, and appears to have relevance to the current problems of maternal hygiene."

As a prelude to the development of Rules and Regulations for Hospital Maternity and Newborn Care, now in force, a detailed survey and analysis of such care in hospitals and in prenatal clinics in Washington, D. C., was conducted in 1951. The findings in this survey, as had those of previous surveys, and somewhat crude analyses of stillbirth and neonatal mortality in the various hospitals of the city during the decade between 1940 and 1950 served to highlight the need for regular and recurring studies of the obstetric and newborn experience and of other aspects of the community picture of maternal and newborn care.

Such an inquiry seemed essential to supplement, expand, and give more effective direction to current collaborative efforts of the Maternal and Child Health Service of the Department of Health with hospital maternity departments to improve standards of care and with the medical profession, per se, through the existing Maternal Mortality Committee and proposed fetal and neonatal mortality committees. We felt, too, that such analyses would serve to foster improved records in individual hospital maternity departments and would permit continuing evaluation of existing programs of care with better definition of specific areas in which greater effort was indicated.

The official livebirth and stillbirth certificates of the District of Columbia have had since 1940 a detachable supplement providing for submission on the livebirth certificate of data on the condition of the child at birth and on pregnancy, labor, and delivery of the mother. On the stillbirth certificate there is similar data on pregnancy, labor, and delivery, together with the causes of the fetal death, its time of occurrence, and the condition of the fetus. However, the Department of Health had not had the resources to process these data on any systematic basis, nor had there been any query regarding unreported items.

Obviously, the first step in planning for the possible use of these data in the maternal and child health program was a review of the information contained on these official records. With the assistance of the Children's Bureau we were enabled to set up a project, the

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This paper was presented before a Joint Session of the Maternal and Child Health and Statistics Sections of the American Public Health Association at the Eighty-Second Annual Meeting in Buffalo, N. Y., October 15, 1954.

specific objectives of which as originally planned included: (1) the development and testing of a plan for using the official data on livebirth and matched neonatal death records, as well as that on fetal death records, in the over-all community maternal and child health program evaluation and planning; (2) the investigation of the completeness and accuracy of reporting by hospitals of various items considered essential or desirable on the birth and stillbirth records; and (3) the review of the medical and health items on these records for appraisal of their usefulness and the possible need for revision, deletion, or expansion.

Because of the design of the study, it was possible to include as additional objectives a description, on the basis of a representative sample of hospital records, of the current obstetric practice in the community, together with the current experience with respect to the complications of pregnancy, labor, and delivery, and to the prevalence of congenital malformations and birth injuries, and an evaluation of the completeness and adequacy of maternal and newborn clinical records in hospitals.

To accomplish these objectives the 16,556 livebirth certificates registered with the Bureau of Vital Statistics as occurring in the District of Columbia between July 1 and December 31, 1952, and the 374 neonatal deaths occurring among these births were processed and analyzed, as were the 598 certificates of stillbirths reported as occurring during the calendar year 1952. In addition, a representative sample of 1,045 hospital records selected from the hospital delivery register of 10 civilian hospitals—at which 85 per cent of the livebirths in the city occurred—were reviewed, coded, and tabulated with reference to selected items on the livebirth certificates. Some additional items were also included in order to evaluate the completeness and adequacy of maternal and newborn clinical records in hospitals. The hospital records were matched with the livebirth records and the data on the hospital records compared by machine with corresponding reports on the livebirth certificates. There were 945 such matched records. This procedure was devised to test the accuracy of reports of selected items submitted on the birth records, based on the assumption that the hospital records were correct.

Twenty-four items on the 16,556 livebirth certificates and their medical supplements were evaluated for completeness of reporting with the following results. Identification details which have appeared over a long period of time on the birth record were universally reported, such as sex, race, age of mother, and status of the newborn with respect to legitimacy. Medical items, such as length of gestation, type of delivery, birth weight, parity, and induction of labor were reported with more than 95 per cent completeness. Items reported with from 90 to 95 per cent completeness included those dealing with the provision of prenatal care, previous fetal loss, the need of the infant for artificial respiration, and the type of medical care at delivery (i.e., staff, private), the use of analgesics and anesthetics.

Of the items reported with more than 10 per cent incompleteness, the response to the item dealing with the time of the first prenatal visit was 44 per cent incomplete, with complications of pregnancy 41 per cent incomplete, and complications of labor 30 per cent incomplete. In about 20 per cent of the livebirth records no information was submitted on questions relating to duration of labor, congenital malformations, and birth injury.

The assessment of accuracy of reporting as measured by the similarity between statements appearing on the birth record and those found on the hospital history included length of gestation,

birth weight, type of delivery, need for artificial respiration of the infant, complications of pregnancy and labor, duration of labor, and the occurrence of congenital malformations and birth injury.

Birth weight reported with 98 per cent completeness was the only item which combined both completeness and accuracy.

Length of gestation which was reported close to 100 per cent on the birth certificate was found grossly inaccurate with an extraordinary concentration of births in the 40-week category—76 per cent, as compared with 19 per cent in this category in comparable hospital records.

Type of delivery was reported with 98 per cent completeness on the birth records. In terms of frequency, the incidence of operative deliveries on the birth records was 48 per cent compared with 49 per cent on the hospital records. However, there was a 10 per cent deficiency in the reporting of Caesarean sections and 33 per cent deficiency in reporting breech extractions on the birth certificates as compared with the hospital records.

The question as to the necessity of instituting artificial respiration to establish breathing in the newborn was answered on the birth certificates with 94 per cent completeness. The birth records reported that 16 per cent of the babies received artificial respiration as compared with 13 per cent reported on the hospital records. However, the situation varied in different hospitals. To cite two examples: In one institution with a study sample of 148 births, none was specified on the birth certificate as requiring artificial respiration, whereas from the review of the medical records 29 required it. In another hospital in a sample of 94 histories, the birth records reported that 74 per cent required artificial respiration, whereas a study of the 88 hospital records on which this item was reported indicated that only 11 cases or 12.5 per cent were actually given artificial respiration.

Complications of pregnancy (reported with 58 per cent completeness on the birth certificates) was found not only grossly underreported, but inaccurately reported as well in the comparative cross-tabulation of the matched birth certificates and hospital records. From the analysis of the hospital records, exclusive of Rh negatives (not provided for on the birth certificates) 14 per cent of the cases were associated with some complication relating to pregnancy, whereas on the matched birth certificates, excluding births for which no information was recorded, the incidence of complications was 4 per cent. There were similar findings of underreporting and inaccurate reporting for complications not related to pregnancy —the hospital records indicated that 5 per cent of the births were associated with one or another such complication, compared with 2 per cent recorded on the matched birth certificates on which the information was reported.

For the complications of labor (reported with 70 per cent completeness) there was a similar pattern of underreporting and inaccurate reporting on the livebirth certificates. Their incidence as obtained from the hospital records was 16 per cent, the corresponding birth certificates which reported this item 9 per cent.

The item duration of labor was reported on 80 per cent of the birth records. The percentage distribution of births by duration of labor as obtained from the completed birth records approximates closely the true distribution as obtained from hospital histories. However, the relative frequency of labors of short duration, as well as prolonged duration, were underreported on the birth record.

Finally, as to birth injuries and congenital malformations, although the

incidence of birth injuries (0.4 per cent) was the same both for the birth and the hospital records, there were marked discrepancies between the two sources of reference. Similarly, the incidence of congenital malformations ranged between 1 and 2 per cent for both sources of reference, with some under-reporting and inaccurate reporting on the birth records. Even the hospital record on these items must be considered an inadequate source of information because of the currently brief hospital stay and the delay often met in the manifest symptoms of a birth injury or congenital malformation.

It is apparent from these findings that very limited use can be made of much of the medical information reported to date on the livebirth certificates. Birth weight, however, is an exception and even the limited study possible of the variations in birth weight and associated factors, particularly with reference to prematurity, demonstrates clearly the value of complete and accurate information.

Prematurity, on the basis of birth weights of 2,500 gm or under occurred among 10.1 per cent of the livebirths, 8.3 per cent of the white, and 13.7 per cent of the nonwhite. The discrepancy between the two groups persists for birth weights of 2,000 gm and under, which occur among 2.8 per cent of the white and 4.9 per cent of the nonwhite. However, when prematurity ratios were classified according to the prenatal care received by the Negro mothers early prenatal care appeared to be a determinant in the risk of prematurity among Negro women. For among Negro mothers who received early prenatal care (first trimester of pregnancy) the prematurity ratio was 9.7 per cent which, although somewhat higher than the white over-all rate of 8.3 per cent, nevertheless, compares favorably with it. Premature ratios rose for Negro mothers whose prenatal care was started in the second and third trimesters of pregnancy and were excessively high for those who received no prenatal care, 23.5 per cent. The ratio of gross prematurity when early prenatal care was received was 2 per cent as compared with 12.3 per cent when no prenatal care was received. There were parallel findings for white women, but the number receiving no prenatal care was extremely low (1.4 per cent as compared to 14.7 per cent of the Negro women).

A further analysis of prenatal care by place of birth revealed that three-quarters of the nonwhite mothers who received no prenatal care were delivered at the city hospital. The implication of this in relation to the availability of prenatal care in the community for those dependent on public care is apparent.

Another significant differential in the incidence of prematurity is found in relation to legitimacy. Of the white illegitimate babies 14.8 per cent were premature as compared to 8 per cent of the legitimate. The ratio among nonwhite is 16.4 per cent among the illegitimate as compared to 12.5 per cent among the legitimate. These differences obviously require further study to determine among other things whether they indicate an association between definable social factors and the risk of prematurity.

Analysis of any association between complications of pregnancy and of labor with premature birth was not possible from livebirth certificates because of incompleteness and inaccuracy of reporting of these items. However, the study sample of hospital records made possible an analysis of the incidence of premature births in terms of the presence or absence of a complication, and revealed that the existence of some complication of pregnancy increases the risk of grossly premature birth by 300–400 per cent. A similar association was found to exist between the incidence of prematurity and the complications of

labor. The number of cases is too small to permit valid determination of the relative risks associated with given clinical entities.

Passing now to neonatal mortality in relation to birth weight—75 per cent of the neonatal deaths of both races were premature. A classification of the neonatal death rates by birth weight among the 15,556 livebirths studied confirms strikingly the well known role that maturity at birth plays in the survivorship of the newborn. For babies born with birth weights above 2,500 gm the risk of mortality is on the average less than 1 per cent, and rises sharply as the birth weight falls below 2,500 gm from 3 per cent in the weight group between 2,001 and 2,500 gm to 15 per cent, 45 per cent, and 91 per cent in the respective decreasing 500 gm weight groups. It is of interest that the risks of mortality for premature babies do not differ according to race, but for Negro babies weighing over 3,000 gm. at birth the risks of mortality during the neonatal period are noticeably in excess of their white equivalent.

Finally, it is worthy of note that the prematurity rate for white babies in the District of Columbia was 8.3 compared with 7.4, 7.3, and 7.0 as fairly recently reported for Baltimore and California and the country as a whole, respectively, and for Negro babies 13.7 as compared with 9.7 in the country as a whole.

This material on prematurity demonstrates that intensive efforts to bring about complete and accurate reporting of medical information on birth certificates can be justified on the basis of continuing program evaluation and planning, as well as a contribution to medical knowledge. We have been aware of the situation with regard to the lack of prenatal care for many patients delivered at the public hospital. We have known, too, that it is largely associated with clearance for eligibility as to residence and income which delays and often results in refusal of authorization for care. But the data derived from this study are detached and objective. It can be shown from this material that the cost of providing readily available prenatal care, without regard to rigid eligibility restrictions, may be less than the cost of hospital care of the premature babies, quite apart from the saving of infant life that it effects. Again, the relatively high white prematurity rate compared to other jurisdictions provides justification and stimulus for a much broader program for the prevention of prematurity in the city.

Can we achieve the completeness and accuracy in reporting on birth certificates necessary for the full and most effective use of this type of data? Incompleteness of reporting on birth certificates is a deficiency that is readily amenable to corrective measures. The reporting of this information is required by law and failure to comply cannot be well defended by the hospital or physician concerned. The institution of a query program and an enforcement program can be expected to correct these deficiencies. Better cooperation can be expected from physicians if the reporting is simplified and facilitated; if it is known that use is being made of the data reported; and if the value of these data is demonstrated through the dissemination of periodic reports of the findings.

Correction of inaccuracies in reporting is a more difficult problem. A review of the items on which information has been demonstrated to be inaccurately reported reveals certain oustanding characteristics about each of these items. The item "length of gestation" involves a computation which the busy physician may be loath to make especially if the relevance of the information is not obvious. The item "need for artificial respiration" is open to different interpretations by different observers

and hence will not provide a uniform basis of response as presently worded. Similarly, the items regarding complications of parturition and operative delivery are subject to the same type of confusion. These clinical categories and procedures lack precise definition and hence lack general agreement as to definition and meaning, and their relevance to a favorable outcome of pregnancy is not always appreciated by the reporting physician.

In view of these findings we have given serious consideration to the appropriateness of the birth certificate as an instrument for securing meaningful information on current problems of maternal and early infant health. Problems of incompleteness of response, we believe, are amenable to correction by a conscientious effort on the part of the Department of Health to inquire into the reasons for such deficiencies. Problems of inaccuracy of response demand careful revision of the wording of items, as well as orientation of the hospital staffs concerned relative to the meaning of terms employed. The medical information requested should be such that it can reasonably be secured by the hospital staff and appears to have relevance to the current problems of maternal hygiene.

The medical supplement to the birth certificate must not be permitted to become a fixed part of this vital record in terms of its contents. As information is secured on a problem and a given problem clarified, it may be entirely appropriate to delete the item. Furthermore, newly developing problems, or old problems demanding a fresh inquiry, may call for the addition of new items. We know of no other method which for the same amount of effort can secure for us so much pertinent information.

The data used for this paper were derived from a study of medical information reported on birth certificates in the District of Columbia by Ella Oppenheimer, M.D., Samuel Shwartz, M.D., Matthew Taback, Sc.D., and Eleanor P. Hunt, Ph.D. To be published.

Medical Research Fellowships

Applications for 1956–1957 postdoctoral research fellowships are now being accepted by the Division of Medical Sciences, National Academy of Sciences—National Research Council. Fellowships in cancer research, in radiological research, and in tuberculosis are open to United States citizens, those in the medical sciences, also to Canadian citizens. Also available to United States citizens are British-American Exchange Fellowships in Cancer Research for advanced study in Great Britain in specialized fields pertaining to the problem of growth. Similar fellowships are awarded by the British Empire Cancer Campaign to British scientists for study in the United States.

Final date for applications is December 1, 1955. Fellowship Office, National Academy of Sciences—National Research Council, 2101 Constitution Ave., N. W., Washington 25, D. C.

A Preliminary Inquiry into the Cost of Hospital Care for Certain Diseases and Their Implications in Rehabilitation

LENDON SNEDEKER, M.D., M.P.H., F.A.P.H.A., and EDWARD S. LANCASTER

To the uninitiated, present-day hospital costs will seem to verge on the fantastic. Figures unearthed in this preliminary study should be widely comprehended, especially by governmental appropriating bodies.

The efficiency of present-day medical care is such that, although its per diem cost has greatly increased, the cost per illness has in many instances remained approximately unchanged. However, there has been relatively little information gathered as to the cost of care for specific disabilities. This is particularly true in the case of the diseases of childhood. Surveys such as those of Wiprud and Altman [1] have dealt with the question of the cost of illness for the general population and indicate that a considerable proportion of the community medical bill is met from insurance sources. We have been interested, instead, in the burden of caring for specific types of disability, at least for that period of hospitalization which is a critical step in rehabilitating a particular child.

Wallace and her associates [2] have begun to explore one aspect of this problem, the expenditures made by an official health agency, in this case the New York City Health Department. Such data for a public health program are exceedingly useful in planning as well as in estimating the cost of rehabilitation. They do not, however, necessarily constitute a true measure of the expense of care. If we are to confront the future realistically, we must know both the hospital and the agency side of the picture.

The total cost of finding, diagnosing, and adequately treating any particular childhood handicap is extremely difficult to quantitate. A thorough case study for each particular type of handicap is obviously indicated. One ought to ascertain family outlay for private medical care and travel, as well as the expenses incurred by them or any health agency for special operations, aftercare, and training. In the future we intend to undertake such a study with special reference to conditions now being cared for under the Crippled Children's Program. Leone and Lennox [3] have already done this for epilepsy. Until such data are available it will be difficult to estimate accurately the cost of rehabilitating those children born each year with ameliorable handicaps. Perhaps this is of secondary interest at the present time when registers of crippled children are still incomplete and legislatures regularly appropriate

Dr. Snedeker is assistant administrator and Mr. Lancaster is comptroller of The Children's Medical Center, Boston, Mass.

This paper was presented before the Maternal and Child Health Section of the American Public Health Association at the Eighty-Second Annual Meeting in Buffalo, N. Y., October 12, 1954.

insufficient funds for the treatment of these disabilities.

The Children's Medical Center is one of the principal pediatric hospitals in New England. Its facilities include 401 beds for acute and chronic cases and an outpatient department with over 30 special clinics. These cover the fields of cerebral palsy, epilepsy, congenital and rheumatic heart disease, orthopedics, neurology and neurosurgery, plastic surgery, speech, hearing, diabetes, nephrosis, and psychiatry. Members of its staff serve as special consultants to the Crippled Children's Services in the region or in advisory capacity with respect to the work of various voluntary foundations. About half the patients admitted to the Children's Medical Center come from outside metropolitan Boston. Repeated spot-checks have shown that these children are referred for a wide variety of conditions, most of which cannot be effectively diagnosed or treated in the communities from which they come. Many of them require long-term rehabilitation.

We have gradually been accumulating data as to the special financial problems which some of these cases create for the hospital. We intend to augment this information in future with eventual reference to the total cost of rehabilitation. The cost of care in a regional teaching hospital is appreciably above average, at present well over $20 a day in many parts of the country. In Massachusetts the Division of Hospitals in the Department of Public Health requires that all hospitals file an annual statement as to their per diem costs. This is calculated by a standard formula.*

* Since 1950 this figure has tended to rise, as evidenced by the following figures:

January 1–June 30, 1952	$24.69
July 1–December 31, 1952	26.99
January 1–June 30, 1953	26.99
July 1–December 31, 1953	29.46
Average	$27.03

Burns—Severe burns have interested us because of the long period of initial care which they require and the expense of the many plastic procedures necessary to achieve maximum rehabilitation. In the years 1952 and 1953 a total of 67 such cases were referred to the center for treatment during their initial period of disability. A review of their financial status showed that the hospital was being asked to assume a responsibility which exceeded the per diem cost, as calculated under the GRC formula or any other customary figure for reimbursement. These children came from families with an average of four children and a median family income of $2,842. All were in the hospital for more than a month. The average case required 105 days of bed care. The resulting hospital charges per case were $3,348 or about $500 more than the median family income. In one instance the bill was $7,029.83. Practically none of this has been collectible to date.

The per diem cost to the hospital for these burn cases was $31.86 at a time when the reimbursable cost was about $27.03. The average family paid $531.26 toward its bill. Outside agencies, including Blue Cross, contributed only $5.87 per day toward the resolution of this problem.

These data indicate that severe burns occur almost exclusively in children from large families living under unfavorable economic conditions whose income does not permit their meeting medical emergencies by means of insurance. Under such circumstances, providing adequate care can be a very heavy burden on both the family, the community, and the hospital.

Congenital Heart Disease—In 1952 the Children's Medical Center cared for 408 patients with congenital heart disease. One hundred and thirty-two underwent such special diagnostic procedures as cardiac catheterization or

angiocardiography and 196 were operated upon. A review of the financial situation in these cases showed that the cost of care varied from $31.73 to $50.50 per day. At this time the reimbursable cost figure according to the GRC formula was $26.99 and the ward charge for care was $17 per day. The average loss to the hospital was therefore from $7 to $18 a day, or a loss per case of from $50 to over $100. On the basis of over 400 congenital heart admissions, the total loss to the hospital was estimated as somewhere between $15,000 and $50,000. This was exclusive of the salaries of professional personnel without whom the facilities could obviously not be operated. (This year with about the same number of admissions the figure is further increased because of a rise in per diem of about $2.50).

It is of interest to contrast the cost of service from different viewpoints. The figures for children subsidized by the New York City Health Department [2] may not be exactly comparable with ours, but they do show in a general way the variation between the outlay for a public health program and the actual cost to the hospital. Just as with other cases, the per diem cost of care is consistently above average when related to the reimbursable cost figures for Massachusetts. Clearly then the cost of care to the hospital is both per case and per day appreciably greater than the standard figure for reimbursement.

Table 1—Average Costs for Care of Children with Congenital Heart Disease

	Paid by New York City Health Department	Charged by Children's Medical Center
Average for all types of care, per child	$218.31	$310.87
Surgical cases, per child	293.14	378.50
Medical cases, per child	131.45	208.75
Cardiac catheterization per child	.....	272.00

Table 2—Per Diem Charges for Care of Children with Congenital Heart Disease

	Children's Medical Center
Average for all types of care	$39.05
Surgical cases	34.41
Medical cases	41.75
Cardiac catheterization cases	45.33

In the first half of the fiscal year (October 1, 1953–April 1, 1954) a total of 333 cases with congenital abnormalities of the heart or circulation were admitted to the Children's Medical Center. Approximately half were residents of Massachusetts and the rest came from 13 other states, Canada, Central and South America, and the West Indies. For those cases in this group whose accounts were settled during this period under the Crippled Children's Program, again the cost of care exceeded the per diem and amounted to $39.74 per case. The reimbursable cost at this time was $28.33. The average hospital stay was 6.6 days.

Hare Lip and Cleft Palate—Cases of hare lip and cleft palate represent a more uniform group whose care does not require an extensive amount of apparatus or large numbers of professional personnel for their care. It is recognized that operation is only one step in the rehabilitation of these children who often require long-term speech therapy and special orthodontic treatment for a successful outcome. The cost of hospital care for actual surgical repair is somewhat less than the standard per diem. In the first six months of the fiscal year 1954 (October 1, 1953–April 1, 1954) 99 cases were admitted to the Children's Medical Center for treatment of hare lip and cleft palate. Of those cases whose accounts were settled during this period

the average daily hospital charge was $24.46 or about $4 less than the standard per diem reimbursable cost. The average length of hospital stay was 11.6 days.

From the standpoint of the public health administrator these figures may seem to constitute a reason for reduction of subsidy, but in any situation where other types of cases are being referred the increased cost of care for other conditions will more than counterbalance this situation.

Discussion

Under present conditions a regional hospital assuming responsibilities for the rehabilitation of various childhood disabilities is operating at a considerable financial disadvantage. Reconstructive surgery is undertaken by the hospital with the implicit understanding that the charge per day or per case will considerably exceed the standard reimbursable cost figure. In the case of certain conditions where complex apparatus and procedures are not involved, the per diem may be somewhat lower than the reimbursable cost, but it is doubtful if the two ever balance.

It has been the experience of our hospital that between a third and a half the cases admitted for diagnosis or treatment of rehabilitable lesions come from outside the area from which we have accumulated our charitable funds.

Figures are needed, both from the hospital and from the agency standpoint, as to the cost of various rehabilitation procedures. With this in mind the Children's Medical Center has begun the development of a register of children admitted for such care for the purpose of determining more definitively what is involved.

Summary

More data are needed as to rehabilitation costs for various types of childhood disability, both from the standpoint of the funding agency and that of the hospital providing the service.

The regional hospital is often required to dispense charity on a regional basis from local funds. This inequity will have to be eliminated eventually.

The correction of defects produced by such lesions as burns or congenital heart disease cost appreciably more than the standard per diem reimbursable cost. This is to a partial extent counterbalanced by the cost of one stage of surgical repair of such lesions as hare lip and cleft palate. At present the total situation operates to the disadvantage of the hospital.

Present restrictions regarding the use of insurance to supplement state programs and the employment of professional personnel need revision so that maximum equalization of cost may be attained.

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Howard University Establishes Department of Preventive Medicine

According to an announcement by Paul B. Cornely, M.D., Howard University, Washington, D. C., has established a Department of Preventive Medicine and Public Health in the College of Medicine. Previously the teaching was combined with bacteriology. Dr. Cornely is head of the new department.

A Study of the Stability of Pertussis Vaccine Under Different Conditions of Storage

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Stability and antigenic potency of any prophylactic agent become matters of concern to all who are involved in communicable disease control.

Early in our experience with pertussis vaccine we recognized certain problems in relation to stability of the product. A question of great practical importance was how long a particular lot of pertussis vaccine would remain antigenic under ordinary conditions of storage in the cold. Another practical question was whether it would be possible to prepare a reference vaccine which would retain its potency over a long period, for example, one in the lyophilized state. Also, the influence of certain killing agents and preservatives on the stability of pertussis vaccine was not known. The choice of a chemical such as merthiolate or phenol, instead of heat, had been made without experimental basis, in an attempt to use a killing agent that might be less likely to injure the undefined protective antigen. After chemically killed vaccines of pertussis cultures grown on Bordet-Gengou medium had been found, on the basis of field trials, to be effective, there was a natural hesitancy to change the method of preparation in any way. However, the development of a mouse protection test provided laboratory criteria for assessing various factors concerned with antigenicity and stability. This report concerns particularly the results of mouse protection tests of vaccines stored at different temperatures for varying periods. Data are included also on the stability of vaccines killed and preserved by different agents, and of one vaccine prepared from growth in fluid medium (Cohen-Wheeler) for comparison with vaccines prepared from growth on solid medium (Bordet-Gengou).

Experimental Methods and Results

The experimental lots of pertussis vaccines were prepared from one culture, strain number 10-536, grown either on Bordet-Gengou medium or in the fluid medium described by Cohen and Wheeler.[1] Vaccines prepared from growth on Bordet-Gengou medium were harvested after 48–72 hours incubation, washed once in saline, and killed and preserved by one of the following agents: merthiolate 1:5,000 in a heavy bacterial suspension, subsequently diluted to con-

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This study was sponsored by the Committee on Research and Standards of the American Public Health Association with the aid of funds contributed by member laboratories of the Biologic Section of the American Drug Manufacturers Association.

Table 1—Pertussis Vaccine Lot 213: Mouse Protective Properties of Portions Killed by Merthiolate, Phenol, Formalin, and Heat, Respectively, After Storage in the Cold (5°–10°C)

Storage Period	Vaccine Lot 213 from Bordet-Gengou Medium								Recently Prepared Vaccine ED/50 (Reference)
	Merthiolate		Phenol		Formalin		Heat		
	ED/50	Ratio	ED/50	Ratio	ED/50	Ratio	ED/50	Ratio	
2 years 5 months	240	...	150	...	500	...	280	...	...
6 years 7 months	500	0.8	390	0.6	NG	...	400	0.6	620
7 years 6 months	140	0.9	290	1.8	250	1.6	230	1.4	160
8 years 3 months	320	3.2	430	4.3	310	3.1	190	1.9	100
9 years 8 months	690	4.6	690	4.6	NG	...	250	1.7	150
9 years 11 months	630	2.7	1,300	5.7	1,500	6.5	710	3.1	230

NG = response not graded
Ratio = ED/50 of test vaccine divided by ED/50 of reference

tain 10 billion organisms per ml and merthiolate 1:10,000; phenol, 0.5 per cent; formalin, 0.2 per cent; or heat at 56° C. for one hour, with merthiolate 1:10,000 added subsequently as a preservative.

The vaccines prepared from fluid medium consisted of whole culture, diluted with saline to 10 billion organisms per ml. These antigens were killed and preserved by merthiolate 1:10,000; or killed by heating at 56° C. for one hour and then preserved with merthiolate 1:10,000.

The procedure for the mouse protection test has been described in other reports.[2, 3] Three groups of 14 mice each were given graded doses of vaccine in one intraperitoneal injection. After a rest period of 14 days a challenge dose of 100,000 organisms was given intracerebrally. Based on the numbers of mice surviving in the three groups 14 days after challenge, the ED_{50} was calculated. The method used was that described by Litchfield and Fertig[4] in which the standard error of the ED_{50} and of the slope of the dosage mortality curve are calculated as a basis for judging validity of the data.

Results with Vaccines Prepared from Culture Growth on Bordet-Gengou Medium, Stored as Fluid Suspension—One lot of H. pertussis vaccine, number 213, was prepared in March, 1944, divided into four portions, and each killed by a different agent. The results of protection tests on the merthiolate, phenol, formalin, and heat-killed portions of this vaccine after different periods of storage in the cold are shown in Table 1. The end points are expressed in millions of organisms.

It will be seen that the first test recorded was two years and five months after the preparation of the vaccine. Earlier tests were not done by the intracerebral method because it had not yet been standardized. Two years and five months after the vaccine preparation date, there was little difference in the end points of the merthiolate, phenol, and heat-killed portions; the ED_{50} value of the formalin-killed portion was slightly higher. In subsequent tests a recently prepared vaccine was included,

Table 2—Pertussis Vaccine Lot 213: Mouse Protective Properties of Merthiolate, Phenol, Formalin, and Heat-Killed Portions After Storage at Room Temperature

Storage at Room Temperature After 6½ Years in the Cold	Vaccine Lot 213 from Bordet-Gengou Medium								M213 in the Cold (Reference)
	Merthiolate		Phenol		Formalin		Heat		
	ED/50	Ratio	ED/50	Ratio	ED/50	Ratio	ED/50	Ratio	
0	500	1.0	390	0.8	NG	...	400	0.8	500
7½ months	830	3.3	790	3.2	720	2.9	340	1.4	250
12 months	450	3.2	480	3.4	710	5.1	220	1.6	140
15 months	790	1.1	1,000	1.4	NG	...	980	1.4	710
21 months	1,300	4.1	590	1.8	680	2.1	790	2.5	320

and the ratios of end points for stored vaccines to end points of recent vaccines are recorded. These ratios show a gradual and fairly consistent increase with the increased storage period.

The results suggest that the vaccines stored in the cold retained their mouse protective properties at a fairly high level through at least seven years. In relation to the data on the different killing agents, the heat-killed vaccine gave as good protection to mice, and remained potent as long as did the other antigens; in fact, some advantage for the heat-killed antigen was suggested by the results. It may be noted here that although a study of changes in physical properties of stored vaccines was not a part of the present investigation, it was observed that with prolonged storage, the phenol and formalin-killed antigens became dark in color and difficult to resuspend, while the portions killed by merthiolate and by heat showed little change in appearance.

For purposes of study, an attempt was made to accelerate deterioration of the antigens and thereby exaggerate any differences that might occur among antigens under different conditions. From the vaccines which had been stored in the cold for six and one-half years, portions were removed and stored, respectively, at room temperature and at 35° C. The results of mouse protection tests after varying periods at room temperature are given in Table 2.

The ED_{50} values of the vaccines at room temperature are compared with the merthiolate-killed Lot 213, stored continuously in the cold. The results indicate more rapid loss of protective properties at the higher temperature of storage. In the test made after 21 months at room temperature a recently prepared reference antigen was also included. ED_{50} of this antigen was 100 (not included in the table) and the ratios of the four test vaccines to it were 13, 5.9, 6.8, and 7.9, respectively, giving further evidence of the loss in potency after storage at room temperature.

The ED_{50} values of vaccine stored at an incubator temperature of 35° C. subsequent to six and one-half years in the cold are recorded in Table 3.

The results indicate that the vaccine deteriorated during the first six months at incubator temperature, and after one year and three months there was practically no protection. It should be noted that the ratios relate the end points of

Table 3—Pertussis Vaccine Lot 213: Mouse Protective Properties of Merthiolate, Phenol, Formalin, and Heat-Killed Portions After Storage in the Incubator at 35° C

Storage at 35° C After 6½ Years in the Cold	Vaccine Lot 213 from Bordet-Gengou Medium								M213 in the Cold (Reference)
	Merthiolate		Phenol		Formalin		Heat		
	ED/50	Ratio	ED/50	Ratio	ED/50	Ratio	ED/50	Ratio	
0	500	1.0	390	0.8	NG	...	400	0.8	500
3 months	NG	...	1,700	5.1	620	1.9	500	1.5	330
6 months	1,300	4.1	1,200	3.8	2,300	7.2	620	1.9	320
9 months	220	1.3	680	4.0	500	2.9	NG	...	170
12 months	390	2.8	980	7.0	NG	...	1,000	7.1	140
15 months	2,000	8.3	No protection	...	No protection	...	1,000	4.2	240
21 months	740	2.3	890	2.8	830	2.6	1,000	3.1	320
23 months	NG	...	3,200	8.6	NG	...	1,450	3.9	370
2 years	3,000	6.7	1,950	4.3	NG	...	NG	...	450

the vaccine stored at 35° C. to the end points of the merthiolate-killed portion which had been stored in the cold, M213 (last column in the table). Had the results with the incubator-stored vaccine been compared with a recently prepared lot, even higher ratios could have been expected. It may be noted that the ED_{50} values of the incubator-stored portions varied more from test to test than did those for the vaccines stored in the cold. Comparing the killing agents, when all results are considered, none stands out as definitely superior. In line with a previous notation, however, there is a suggestion, particularly in the tests at three and six months, that the heat-killed vaccine was slightly better than the others.

A weakness of these early experiments was the lack of tests immediately after Lot 213 was harvested; at that time, as indicated earlier, a potency test had not been standardized. It was possible, therefore, that an unobserved loss in antigenicity had occurred immediately after preparation of the vaccine. To test this possibility another lot (No. SA8) was prepared on Bordet-Gengou medium, and potency tests were started four days after harvest and repeated at frequent intervals after storage at 5 to 10° C. The results during a period of five and one-half months are given in Table 4.

While the ED_{50} values of the two vaccines give some indication that the heat-killed lot may have been slightly more potent, there is no indication of deterioration in antigenicity of either vaccine during the five and one-half months of observation.

Results with Vaccine Prepared in a Fluid Medium and Stored as Fluid Suspension—A heat-killed, merthiolate preserved vaccine prepared from culture 10-536 grown in Cohen-Wheeler fluid medium was tested at intervals after

Table 4—Pertussis Vaccine Lot SA8: Mouse Protective Properties at Intervals Beginning at Four Days After Storage in the Cold (5°–10°)

Storage Period	Vaccine Lot SA8 from Bordet-Gengou Medium				
	Merthiolate-Killed		Heat-Killed Merthiolate-Preserved *		Reference
	ED/50	Ratio	ED/50	Ratio	RA8
4 days	760	2.3	280	0.8	330
19 days	250	1.5	450	2.6	170
34 days	510	1.3	300	0.8	400
54 days	600	3.3	220	1.2	180
69 days	400	2.0	NG	...	200
5½ months	150	0.4	140	0.4	350

* Merthiolate added subsequent to heating

storage in the cold (5°–10°) and in the incubator at 35° C. The results are given in Table 5.

After storage in the cold the vaccine showed no loss of potency when last tested, at 15 months. After storage in the incubator, however, marked deterioration was indicated by tests at four months.

Comparative Results with a Vaccine Stored as a Fluid Suspension, and the Same Vaccine Stored in the Lyophilized State—A lot of vaccine prepared in March, 1945, killed and preserved with merthiolate, and adjusted to 10 billion per ml, was divided into two parts: one was stored as a fluid suspension in the cold in the usual manner; the other was dispensed in ampules, frozen and dried by the lyophile method and stored at room temperature. Table 6 shows the results of mouse tests on these two anti-

Table 5—Pertussis Vaccine Lot CW-SA9, Prepared in Fluid Medium: Mouse Protective Properties After Different Storage Periods

Storage Period	Heat-Killed Merthiolate-Preserved *				Reference
	Cold Room		Incubator		
	ED/50	Ratio	ED/50	Ratio	RA8
9 days	130	0.7	180	0.9	190
15 days	210	0.6	210	0.6	340
43 days	NG	...	710	2.2	320
50 days	250	1.6	250	1.6	160
4 months	180	0.6	2,000	6.3	320
9 months	110	0.4	NG	...	270
15 months	240	0.6	No protection		380

* Merthiolate added subsequent to heating

Table 6—Pertussis Vaccine: Mouse Protective Properties After Storage in Fluid and Dried State

Storage Period	Fluid ED/50	Fluid Ratio	Dried ED/50	Dried Ratio	Reference ED/50 (Recently Prepared)
13 months	180	1.1	600	3.8	160
14 months	210	0.7	170	0.6	300
2 years	360	2.8	NG	...	130
3 years	220	1.7	210	1.6	130
4 years	320	1.2	330	1.2	270
5 years 8 months	400	0.6	300	0.5	620
7 years	790	...	650	...	NG (roughly 580)
7 years 6 months	400	0.8	630	1.2	510
8 years	400	1.2	210	0.6	340
8 years 10 months	360	0.9	220	0.5	420
9 years 11 months	400	1.0	330	0.8	400

gens after periods of storage up to 10 years.

Whether the ED_{50} values of the fluid and dried antigens are compared with each other or with those obtained with recently prepared reference vaccines, there is no evidence of deterioration up to eight years and nine months after preparation. The averages of the ED_{50} values for fluid, dried and reference antigens are 370, 365, and 350, respectively.

Discussion

Killing Agents—Although the experiments included comparative testing of vaccines killed with several agents, they give no clear-cut answer that one agent assures a more potent product than another. It is noteworthy that the data indicate no difference either in mouse protective properties when first prepared, or in stability between vaccines killed by merthiolate and those killed by heat. Perhaps the use of heat as a killing agent in the preparation of pertussis vaccines needs reconsideration, since there are certain obvious advantages, particularly in relation to toxicity. Further basis may be provided by current studies in other laboratories on the nature of the antigen responsible for protection. In the choice of a killing agent there are, of course, practical considerations such as its effect on the physical state, including ease of resuspension and color. Differences in these respects were noted earlier for the several agents studied.

Vaccines from Growth in Fluid Media—In relation to vaccines prepared in fluid media, even when mouse protection tests have indicated good antigenicity, there has been some concern as to whether they would maintain their antigenicity during storage. The fact that the vaccine tested maintained its mouse-protective properties for 15 months in the cold gives reason for expecting it to be stable much longer. In general, if a vaccine has given good protection

of mice in early tests it has maintained its protective properties for a matter of years under conditions of cold storage.

Stability of a Vaccine Dried from the Frozen State—The data indicate stability of a dried vaccine stored at room temperature for many years. While it is true that vaccine in fluid suspension showed remarkable stability under controlled conditions of storage, there are obvious advantages in a dried product for reference use on a large scale—as an international reference antigen, for example. Wide use of dried reference antigens, now available from the National Institutes of Health, will add much information as experience accumulates.

Summary

The results of comparative mouse protection tests over a period of years have been reported for pertussis vaccines prepared from cultures grown and killed by various methods and stored under different conditions. Stored in the cold, some of the vaccines retained mouse protective properties for as long as from eight to 10 years. The results suggest that heat at 56° C for an hour might well be reconsidered as a killing method. A vaccine dried from the frozen state showed no evidence of deterioration after 10 years; the suitability of such a preparation for a reference vaccine is discussed.

ACKNOWLEDGMENTS—The authors express appreciation to Dr. Elaine Updyke and Esther Nadolski for their assistance with many of the tests, and to Dr. Lucile Portwood for preparation of experimental vaccine, Lot 213.

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Surplus Property for Health Uses

A surplus property bill (HR 3322) has been passed by Congress and signed by the President. It makes large quantities of government surplus available for donation to health departments, hospitals, and professional schools and with more liberal terms of transfer than heretofore.

The Department of Health, Education and Welfare through its Division of Surplus Property Utilization has published a "how-to-acquire-surplus" guidebook for those who desire to acquire surplus property for health or educational use. Its title—Acquiring Surplus Property for Health or Educational Use. Government Printing Office, Washington 25, D. C.; 15 cents.

Comparative Incidence of Influenza A-Prime in 1953 in Completely Vaccinated and Unvaccinated Military Groups

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This research differs from other influenza vaccination studies in several respects. Completely vaccinated and unvaccinated groups are compared and several factors encountered which may affect results are evaluated. The effect of differences in housing is an entirely new finding.

Most of the studies on the efficacy of influenza virus vaccines, as carried out by members of the Commission on Influenza, were designed to include a fixed proportion of pseudovaccinated controls in all military units in which vaccine was given. The protective effect of a vaccine was then measured by comparing the incidence of influenza in those receiving vaccine with that in the controls receiving pseudovaccine.

In 1945 an opportunity was afforded for a different type of study. All members of ASTP units were vaccinated against influenza in the fall of that year, while none of the personnel of Navy V-12 units received influenza vaccine. The protection ratios found in these totally vaccinated and totally unvaccinated populations were the highest that have been observed in any of the studies by the commission.[1-3]

However, it is not clear whether the high protection ratios of the 1945 studies were obtained because influenza B, which was prevalent in that year, is more easily controlled by vaccination than influenza A or A-prime, or perhaps, as was previously suggested,[4] a comparison of attack rates in completely vaccinated populations with those in completely unvaccinated groups gives a better demonstration of the full effectiveness of a vaccine.

In order to explore further these aspects of the problems of immunization against influenza another experiment on the efficacy of vaccination of a total population was planned for 1953, a year in which influenza A-prime was expected. This study is reported in detail not only because the results reinforce the concept that the maximum effectiveness of a vaccine is shown by vaccination of a total population, but also because it was possible to demonstrate the influence of other factors, such as differences in housing, in the incidence of concomitant noninfluenzal disease, and in the number of blood samples obtained, which may affect the evaluation of vaccination experiments.

Materials and Methods

Vaccine—The principal vaccine employed was prepared in a commercial laboratory and contained 750 CCA units per ml, made up of equal parts of FMI A-prime, Cuppett A-prime, and Lee B strains of influenza virus. Virus was concentrated and partially purified by

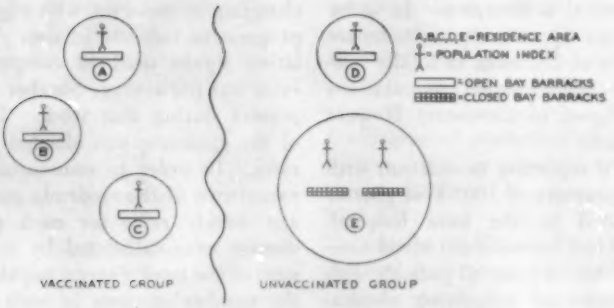

Figure 1—Sampson Air Force Base

centrifugation and inactivated with formalin. A volume of 1 ml was given subcutaneously. A small proportion of the population under study received the same dose of one of two other vaccines of different formulas. All, however, are considered as a single group.

Plan and Conditions of Study—The individuals participating in the study were recruits assigned for basic training to Sampson Air Force Base, Geneva, N. Y. Upon arrival they were formed into flights of 64–72 airmen. Each flight was housed, fed, and trained as a unit for a 12-week period. Flights were allocated on alternate days to one of two training commands. Hence, the strength of each was approximately the same. The trainees in Command I were housed in Areas A, B, and C (Figure 1). Those in Command II were housed in D and E areas. Areas A, B, C, and D contained approximately the same number of recruits in equal numbers of open bay * barracks; Area E contained about twice as many recruits and barracks as any of the others. The barracks in Area E were closed bay in type. When fully occupied each type of barrack contained the same number of men. Trainees were acquired by and lost from each area to approximately the same extent throughout the study period. As indicated by the curved line in Figure 1, the installation of the permanent base complement separated the two commands. Each command used separate buildings for classrooms and was served by separate mess halls and dispensaries. Contact between the recruits in the commands was limited by these circumstances to occasional associations at post theaters, churches, or dayrooms during off duty hours. Recruits assigned to Command I were vaccinated on the third

* Open bay barracks were not partitioned, while closed bay barracks were divided into rooms capable of accommodating six persons.

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These studies were conducted under the auspices of the Commission on Influenza, Armed Forces Epidemiological Board, and were supported by the Office of the Surgeon General, Department of the Army, Washington, D. C.

The cooperation and support of Major General Richard C. Lindsay, base commander; Lieutenant Colonel J. R. Patterson, group commander; Majors W. T. Downey and W. R. Campbell Jr., troop commanders; and the personnel of the 3650th Military Training Wing are acknowledged gratefully. We are also indebted to Colonel J. R. Copenhaver, commandant, Base Hospital; Colonel J. Tobin, chief, Medical Service; Colonel C. Z. Berry, chief, Professional Services; the personnel of USAF Hospital, Sampson AFB; and the members of the Epidemiological Detachment, 1141st Medical Service Squadron, USAF.

day after arrival at Sampson. In order to provide an opportunity to compare the incidence of influenza in totally vaccinated or unvaccinated populations recruits assigned to Command II were not vaccinated.

All airmen reporting to sick call with an oral temperature of 100° F or greater were admitted to the base hospital. Acute phase and convalescent blood samples were obtained from all patients with signs or symptoms suggesting respiratory disease. Throat washings were taken from a limited number of patients. Etiologic diagnoses were attempted only in patients hospitalized for respiratory disease.

Diagnoses: Influenza—A serologic diagnosis was employed to ascertain the incidence of influenza. The hemagglutination-inhibition test, as recommended by the Committee on Standard Procedures in Influenza Testing,[5] was used to measure antibody and antibody rise. The Group A antigens used were PR8 (1934), Rhodes (1947), and Burman (1953), a strain isolated at Sampson during the epidemic. Lee (1940) was selected as a representative Type B strain. Antibody titers are expressed as the reciprocal of the dilutions employed. A fourfold or greater rise in antibody was considered diagnostic of influenza.

Streptococcal Infection—Diagnosis was based on sore throat, pharyngeal exudate, isolation of hemolytic streptococcus by throat culture, or recognition of the clinical syndrome of scarlet fever.

Other Respiratory Disease—Aside from a small number of cases considered to be primary atypical pneumonia or pneumonococcus lobar pneumonia, the majority of the remaining cases of respiratory disease were undifferentiated. For convenience these will be referred to as acute respiratory disease (ARD).

Calculations—The populations observed in this study were continually changing in make-up, with a gradual but progressive increase in size. The population figure used to compute weekly rates was the average number of persons present during that week. The course of the epidemic was charted by weekly rates. In order to summarize the total experience of the epidemic period, average weekly rates for each respiratory disease were calculated by dividing the sum of the weekly mean populations into the number of cases in each diagnostic category hospitalized during the epidemic period.

Owing to circumstances beyond control disproportionate numbers of patients admitted for respiratory disease from the two commands were not bled in convalescence. In consequence, 10.6 per cent of the cases in the vaccinated Command I and 17.8 per cent in the unvaccinated Command II were lost from the study. To correct for this inequality the cases lost from each command were distributed into the major diagnostic categories under consideration. The basis for distribution was the presumption that the same proportion of each disease would obtain in the lost cases as in the known cases.

Results

Serologic Response to Vaccination—Antibody response to vaccination was measured by comparing pre- and postvaccination titers in sera obtained from 168 recruits. Bleedings were done at two-week intervals. The data presented in Table 1 are similar to previous observations. A moderate antibody rise to PR8 was noted even though that strain was not included in the vaccine.[6] This finding emphasizes the antigenic relationship of A and A-prime strains. An excellent response was measured with Rhodes, while postvaccination titers obtained with Cuppett were the lowest observed. The response to Lee was greatest.

Table 1—Serologic Response to Vaccination

Antigen	Geometric Mean H.I. Titer * Pre	Post
PR8 A 1934	204.8	307.2
Rhodes A′ 1947	174.1	752.6
Cuppett A′ 1950	<32	134.4
Lee B 1940	128.0	952.3
	Unvaccinated	Vaccinated
Burman A′ 1953	48.6	248.3

* Hemagglutination inhibition titer

An estimate of the capacity of this vaccine to induce antibodies against a strain of virus isolated during the epidemic at Sampson (Burman 1953) was obtained by comparing antibody levels in vaccinated and unvaccinated recruits hospitalized prior to the epidemic (Table 1). Sera were available from 99 vaccinated and 75 unvaccinated persons. The average titer against Burman was fivefold higher in vaccinated than in unvaccinated patients. As with the Cuppett strain postvaccination antibody levels to Burman strains were lower than to the older strains, PR8 and Rhodes. Relatively low postvaccination levels of antibody to recent isolates have been frequently observed.[7, 8] Nevertheless, the degree of protection afforded by influenza vaccines in this and in other recent studies has been consistently high.[8-10]

Isolation of Virus—Four strains were isolated at Sampson during the epidemic period. Antibody rise was observed in the recruits from whom the isolations were made. The isolates were influenza A-prime virus and appeared antigenically similar to strains isolated elsewhere in the same year.[11]

Epidemic Period—The first portion of Figure 2 represents the weekly incidence of all respiratory disease hospitalized for the period November 1, 1952, through January 2, 1953, from the vaccinated and unvaccinated groups. In this interval the attack rates in both populations were approximately the same, which indicates they were at equal risk. Ten per cent of all sera collected during this period was tested in the

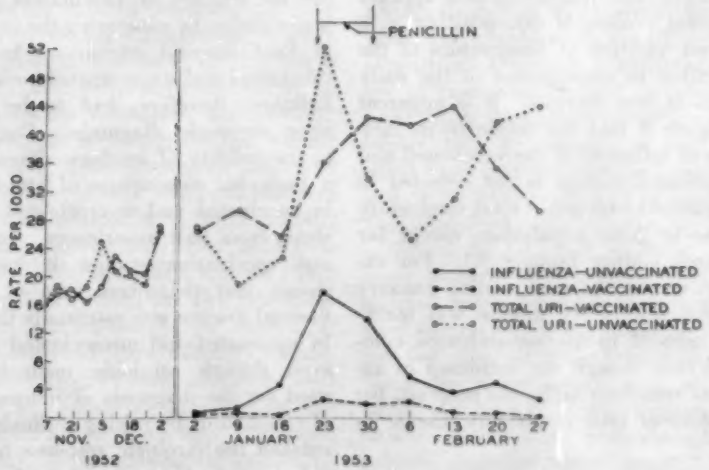

Figure 2—Weekly Incidence of Respiratory Disease

laboratory and no serologic evidence of influenza was found. Early in January the appearance of influenza at Sampson was recognized clinically and this impression was promptly confirmed by isolation of virus and serologic findings. The incidence and distribution of influenza were determined by testing all sera collected from December 27 through February 27 by hemagglutination-inhibition. A sample of the sera was also tested for complement-fixing antibodies using as antigens allantoic fluid or membranes from eggs infected with Spirup A-prime (1948) * strain or Burman strain (1953). The technic used has been previously described.[12] Excellent agreement was found in results of the two methods.

The epidemic appeared to be of brief duration, the course being shown in the second portion of Figure 2. Weekly rates of total respiratory disease in vaccinated and unvaccinated groups during the epidemic period are also presented. The epidemic of influenza as observed in the unvaccinated population was characteristic in that the ascending limb of the curve of incidence rises abruptly and the duration of maximal incidence was brief. The descending limb appears somewhat prolonged due possibly to a constant addition of susceptibles to the population in consequence of the daily arrival of new recruits. It is apparent in Figure 2 that the disparity in incidence of influenza in the vaccinated and unvaccinated groups is not reflected in the relative incidence of total respiratory disease in these populations except for the week ending January 23. For example, during the week ending January 30 total respiratory disease was markedly reduced in the unvaccinated command even though the incidence of influenza remained high. In contrast, the incidence of total respiratory disease in the vaccinated command continued to rise, although the attack rate of influenza was low and stationary.

This paradox is in part explained by the fact that for the purpose of a study on streptococcal disease, conducted independently at Sampson, oral penicillin was given to all members of the unvaccinated command for a 10-day period beginning January 22. The vaccinated command was not given penicillin and served as a control. As reported by the investigators reponsible for the oral penicillin experiment,[13] the incidence of streptococcal infection in the penicillin-treated, unvaccinated command was greatly reduced, while the streptococcus rate in the untreated, vaccinated recruits continued at a high level. The use of penicillin correlates with the sharp drop in total respiratory disease in the unvaccinated command beginning on January 23.

It should also be noted that the continued rise in total cases of respiratory disease in vaccinated recruits is attributable to disease other than influenza. The disparity in distribution of non-influenzal disease during the outbreak of influenza made it impossible to measure the efficacy of vaccination in this investigation by comparing the incidence of total hospital admissions from the vaccinated and unvaccinated commands. Reliance, therefore, had to be placed upon serologic diagnosis. Confidence in the validity of serologic diagnosis as a basis for comparison of attack rates in vaccinated and unvaccinated groups stems from past experiences. In previous vaccination studies it has been shown that the attack rate of non-influenzal disease was essentially the same in vaccinated and unvaccinated groups, even though serologic methods were used for the diagnosis of influenza.[4, 7-9] If vaccination, by raising antibody levels, masked the serologic response to infection in a significant number of persons, a disproportionate incidence of non-

* Kindly furnished by Dr. E. H. Lennette of Berkeley, Calif.

influenzal disease would have been found in the vaccinated groups.

Protective Effect of Vaccination: The Influence of Disparities in Collection of Blood and in the Incidence of Non-influenzal Illnesses Upon the Protection Ratio—The average weekly incidence of all respiratory disease in vaccinated and unvaccinated recruits for the epidemic period is presented in Figure 3. The amount of respiratory disease in the vaccinated command was slightly greater than in the unvaccinated. The greater incidence of streptococcus infection and of ARD in the vaccinated command is apparent. The former has been explained as due to the fact that penicillin was not given to vaccinated recruits. It also seems likely that some of the patients in the vaccinated command diagnosed as ARD may well have been hospitalized as the result of streptococcal infection, since the incidence of streptococcal disease was high during this period and criteria for that diagnosis included but a single throat culture. Therefore, it would appear that disproportions in the incidence of non-influenzal disease between the two commands can be accounted for satisfactorily and that the risk of respiratory disease was equal during the epidemic period.

The protective effect of vaccination is clearly shown when the incidence of influenza in the vaccinated and unvaccinated recruits is compared. The average weekly rate in the vaccinated command was 1.06 per 1,000 (S.D.=0.14) and in the unvaccinated, 6.35 (S.D.=0.36), yielding a protection ratio of 6.0–1. However, this summary statistic does not accurately reflect the full protective effect of vaccination in the study. It will be noted in Figure 3 that, by chance, convalescent sera were obtained from a lower percentage of persons hospitalized from the unvaccinated command. Therefore, a disproportionate number of cases of identifiable influenza probably was lost to the study from this popula-

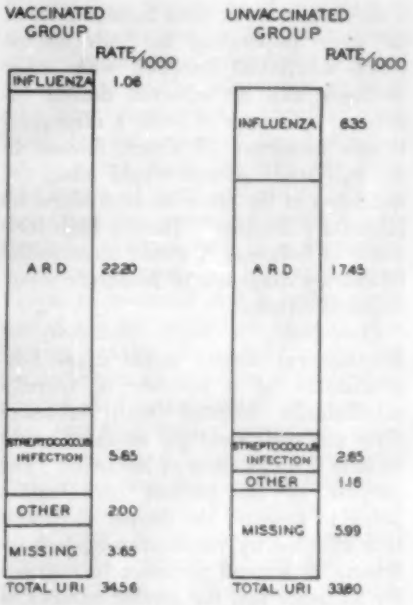

Figure 3—Average Weekly Rate of Respiratory Disease from January 2 to February 27, 1953

tion. When the cases missing from each command were distributed into the major diagnostic categories, influenza, ARD, and streptococcal infection, in the proportions observed, a corrected number of cases was derived for each disease. With these corrections the average weekly rate of influenza in the vaccinated command becomes 1.17 per 1,000 and, in the unvaccinated, 7.73 per 1,000. The protection ratio becomes 6.6–1.

During the influenza epidemic period many patients were hospitalized who suffered more than one infection. In most instances the organisms responsible for these double infections were hemolytic streptococcus and influenza virus. In general, it was impossible to decide on clinical grounds whether patients infected simultaneously with these two agents sought hospitalization because of their reactions to infection

with streptococcus, with influenza virus, or were responding to both agents. Since subclinical infection with either pathogen can be expected during coexistent epidemics of both, a disproportionate incidence of either disease in the two study groups would affect the incidence of the other as determined by laboratory findings. Thus, a high incidence of influenza A would increase the laboratory diagnosis of hemolytic streptococcus infection.

Conversely, a high incidence of streptococcal disease would cause hospitalization of a number of recruits subclinically infected with influenza virus and their serologic response would include them as cases of influenza. The purpose of the present investigation being to measure the degree of protection afforded by vaccination against influenza, it seemed pertinent to estimate the influence that the greater number of streptococcal infections in the vaccinated command had upon this study. To accomplish this, all cases of double infection with streptococcus and influenza virus were set aside and the rate of influenza alone in both remaining populations was calculated. At the same time, an adjustment was made for inequalities in the number of cases lost due to failure to obtain convalescent sera. On this basis the rate of influenza in the vaccinated group became 0.81 per 1,000 and in the unvaccinated 6.38. Utilizing these rates, the protection ratio becomes 7.9–1.

Influence of Housing Upon the Protection Ratio—Since the unvaccinated recruits in E area lived in closed bay barracks while in D area they lived in open bay buildings, an opportunity was available to estimate the influence of type of housing upon the transmission of influenza. Pertinent data are summarized in Table 2. It will be recalled that E area contained twice as many recruits and barracks as D area. The per cent of barracks in which infection occurred was the same in both areas, indicating that opportunities for the introduction of influenza into these populations were equal. However, the average weekly incidence of infection was significantly greater in troops housed in open bay barracks in D area (P=0.01). Moreover, the average number of cases in barracks where influenza occurred was lower in the closed bay type. It would appear then that spread of influenza within a barrack was impeded by the closed bay type of construction.

Table 2—Influence of Type of Barracks Upon Spread of Influenza

Type of barracks	Area D Open Bay	Area E Closed Bay
Ratio of population and number of barracks	1	2
Per cent of infected barrack units	77.3	80.5
Average weekly rate of influenza per 1,000 for epidemic period	7.81	5.56
Average number of cases in infected barrack units	8.24	5.36

The vaccinated population lived in open bay barracks, while only one-third of the unvaccinated recruits were similarly housed. Hence, it seems valid to correct for bias introduced by the fact that two-thirds of the unvaccinated airmen appeared to obtain partial protection against the spread of influenza by the physical nature of their barracks. For this purpose the comparison in the rate of influenza between vaccinated and unvaccinated recruits was restricted to those similarly housed. Corrections were simultaneously made as in data previously presented for double infections and lost cases. The corrected rate in unvaccinated recruits housed in open bay barracks was 6.6 per 1,000. The rate in vaccinated trainees was 0.81 per

1,000. The protection ratio using these adjusted rates was 8.1–1. It seems probable that this figure most closely approximates the protective effect of vaccination operative during this study, since it is derived after correcting for recognized inequalities in the conditions of the experiment.

Discussion

In a recent summary of previous vaccination tests carried out by members of the Commission on Influenza,[3] in which control and vaccinated subjects were mixed in the same study groups, the protection ratios found when the attack rates were as stable as those in the present study ranged from 3.6–1 to 5.2–1. In the present investigation a comparison of the incidence of influenza A-prime in a totally vaccinated population with that of a totally unvaccinated population yielded a crude protection ratio of 6.0–1 and a corrected ratio of 8.1–1. Protection ratios of 8.3–1 or greater[1, 2] have been observed in experiences with vaccination of total populations against influenza B.

From these data it is apparent that a greater divergence in attack rates of vaccinated and unvaccinated persons was found when vaccinated individuals were segregated, and that this effect obtained whether the prevailing disease was influenza A-prime or influenza B.

It seems probable that several factors may contribute to the low protection ratios obtained when control and vaccinated subjects are mixed. In these circumstances the attack rate in controls may be lower than the expected incidence in an entirely untreated population, since vaccination of a portion of a unit may offer partial protection to unvaccinated persons in that group.[4] Moreover, the risk of the vaccinated persons is not reduced to a minimum when highly susceptible persons are allowed to mingle with the immunized. Nevertheless, the results of this type of study probably provide the best estimate of the degree of protection to be expected for persons in the population at large who seek vaccination. On the other hand, complete vaccination of a population would capitalize fully upon the advantages of herd immunity. At the same time this procedure would not influence the attack rate in a segregated untreated population. Hence, it seems logical to conclude that a better measure of the full protective capacity of a vaccine can be obtained by comparing the incidence of infection in totally vaccinated and unvaccinated populations. The fact that higher protection ratios have been found in studies where total vaccination was the practice lends support to this view. Finally, the results of studies in completely vaccinated populations provide a basis for a rational estimate of the value of vaccination for institutions, military units, and other groups who are relatively separated from the community at large.

Summary

A high degree of protection against influenza A-prime in 1953 was observed in a field trial with influenza virus vaccine carried out at Sampson Air Force Base. The plan of the study was to compare the incidence of influenza A-prime in a totally vaccinated group with that found in another group which was not given vaccine. The groups were relatively isolated from each other. The degree of protection observed was higher than that found in other vaccine experiments where controls were mixed with vaccinated persons. A similar result was found following vaccination of segregated populations against influenza B in 1945. The theoretical advantages of complete vaccination of a population seem substantiated by these experiences. Studies with totally vaccinated populations appear to give a better measure of

the full protective power of influenza vaccines.

Data were presented which indicate that partitioning of barracks limits the spread of influenza. Other unavoidable inequalities encountered in the experiment were disparities in the incidence of noninfluenzal disease and in the number of blood samples obtained. The crude protection ratio was 6.0–1. After correcting for these circumstances the ratio was 8.1–1.

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Indian Health Service to USPHS

On July 1, the health and hospital health program for Indians was transferred from the Department of the Interior to the Public Health Service, in accordance with federal legislation passed in August, 1954. In order to carry out this responsibility a Division of Indian Health has been created in the Bureau of Medical Services. The division head is James R. Shaw, M.D., a Public Health Service officer who has headed the health program in the Interior's Bureau of Indian Affairs for the past two years. Drs. Joseph Dean and Frank French continue to serve as assistant chiefs. About 3,600 employees, largely in western hospital and area offices, have also been transferred.

In announcing the creation of the new division, Surgeon General Leonard A. Scheele pointed out that half of the deaths among Indians on reservations are due to preventable diseases, that the average age at death is only 36 in contrast to 61 among whites. He outlined a twofold program, to expand the medical care program by providing more clinic and hospital services and to step up public health and preventive services. The Service is also carrying out a study as directed by Congress of the entire Indian health problem and ways of meeting it. The report of findings is due in October, 1956.

Ophthalmologic Findings in Children Under Foster Home Care

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As far as we can ascertain there has been no recent report in the literature of a study such as this. The findings should prove suggestive to all who are concerned with the care of handicapped children.

To plan adequate health programs, the needs of the community to be served must be known. Otherwise projected programs may be insufficiently thought through, with the result that patients' needs may not really be met or that there may be insufficient justification for the expenditure of public funds. As there is relatively little available information on ophthalmologic findings in infants and young children, the following study of 252 consecutive unselected cases referred from the Division of Foster Home Care of the New York City Department of Welfare may provide interesting and suggestive data on the needs of a special group of children.

"Significant data about this group of children are: about 11 percent of the children under the care of the Foster Home Division were born weighing less than 5½ pounds; about 88 percent are nonwhite and 12 percent white; about 20 percent have at least one parent with active or arrested tuberculosis; about 10 percent have at least one parent with diagnosed active or cured venereal disease; about 22 percent have at least one parent who was or is diagnosed as mentally ill, and 3 percent as mentally retarded; a high proportion (about 65 percent) were born out of wedlock, and a majority were born to mothers who had had inadequate prenatal care. The largest proportion come from the lowest economic segment of the population.

"A small number of children born prematurely who subsequently developed blindness were not included in this study." (Source—Cordice Hallett, Director of the Division of Foster Home Care, New York City Department of Welfare)

Initiation of the Study

In 1952 the Foster Home Division of the New York City Department of Welfare requested that the Bureau for Handicapped Children of the City Health Department perform an ophthalmologic evaluation of dependent children cared for under the aegis of the Foster Home Division. This was possible because the bureau has operated for a period of years a number of eye clinics (24 at the present time) designed to provide diagnostic and consultative services for children suspected of having a visual defect. These eye clinics are staffed by ophthalmologists and a public health assistant (a nonprofessional person). The clinics see approximately 30,000 children of school age annually, the sources of these referrals being, primarily, the school health service and working-paper clinics of the Department of Health. Since it is estimated that approximately 14–25 per cent of school children (140,000–250,000) fail the visual screening examinations in public schools, the eye clinics of the Bureau for Handicapped Children examine 21 per cent—12 per cent of the children referred for further ophthalmologic examination. Treatment in these clinics is limited to refractive care; all other ophthalmologic pathology is referred to selected ophthalmologic treatment agencies.

The authors are associated with the Bureau for Handicapped Children and the Bureau of Records and Statistics, City Department of Health, New York, N. Y.

The request of the Foster Home Division of the New York City Department of Welfare was readily agreed to since it enabled the Bureau for Handicapped Children to: (1) perform a needed service for children; (2) assess the ophthalmologic needs of children of different ages, including infants and preschoolers hitherto not served to any appreciable extent; and (3) evaluate the quality of service being performed by the eye clinics. This report describes the findings of the service after 252 children were seen.

Method of Study

Five eye clinics of the Bureau for Handicapped Children were selected to participate in the study. Clinics were selected on the basis of geographic location, so that one clinic in each of the city's five boroughs participated. The Foster Home Division of the Department of Welfare provided a history on each child to be examined, and children were seen on an appointment basis, as is the custom in the eye clinics.

An ophthalmologic examination was performed on each child by the eye clinic ophthalmologists. The results of the examinations were reviewed by the consulting ophthalmologist of the Bureau for Handicapped Children, who referred for care all children under five years of age with 20/50 or worse vision in either eye, children over five years of age with 20/40 or worse in either eye, and children with pathologic diagnoses requiring treatment regardless of vision. Information on the evaluation of each child was then transmitted to the Foster Home Division of the Department of Welfare, for appropriate action.

Results of Study

Age of Children at the Time of Examination—Of the 252 children examined, 62 (24 per cent) were under two years of age; 148 (59 per cent) were preschoolers (two through five years); 37 (15 per cent) were of school age. The age of five children (2 per cent) was unknown. (Diagnoses are shown in Table 1.)

Of the 252 children examined, 195 (77 per cent) were completely examined and 57 (23 per cent) were inadequately examined and re-examination was requested. Tentative diagnoses were made on all but 12 of the inadequately examined children. Of the 252 children, 162 (64 per cent) were judged to be normal, 78 (31 per cent) abnormal, and findings were so inadequate in 12 (5 per cent) that a diagnosis could not be made.

Children Under Two Years of Age—In this group of 62 children, 47 (76 per cent) were found to be normal; fifteen children (24 per cent) were found to have some visual abnormality; the largest group having refractive errors; the next largest group had defects of muscle function. Data were incomplete on 13 (21 per cent of the group) and a re-examination was requested.

Children Two Through Five Years of Age—In this group of 148 children, 99 (67 per cent) were found to be normal. Forty-four children (30 per cent) were found to have some visual abnormality; the largest single group having refractive errors; the next largest group had defects of muscle function. The diagnoses were unknown in five children (3 per cent). Data were incomplete on 34 children (23 per cent) and a re-examination was requested.

Children Six Years and Over—In this group of 37 children, 16 (43 per cent) were found to be normal. Nineteen children (51 per cent) were found to have some visual abnormality, all of the group having refractive errors. The diagnoses were unknown in two children (6 per cent). Data were incomplete on five children (14 per cent of the group) and re-examination was requested.

Table 1—Ophthalmologic Diagnoses of Children by Age Group

Diagnosis	Infant (Under 2 Years)	Pre-school (2–6 Years)	School Age (Over 6 Years)	Age Unknown	Totals
Normal	47(76%)	99(67%)	16(43%)		162(64%)
Not Normal	15(24%)	44(30%)	19(51%)		78(31%)
Developmental Anomalies of Structure					
Blue Sclera	1				1
Dacryostenosis		2			2
Diseases or Defects of Eye					
Optic atrophy	1	1			2
Retrolental Fibroplasia		1			1
Refractive Errors					
Myopia (including myopic and mixed astigmatism)		8	4		12
Hyperopia (including hyperopic astigmatism)	5	21	15		41
Astigmatism (type unspecified)	4	4			8
Defects of Muscle Function					
Strabismus	3	2			5
Heterophoria	1	1			2
Nystagmus		2			2
Deferred		2			2
Unknown		5(3%)	2(6%)	5(100%)	12(5%)
Total	62(100%)	148(100%)	37(100%)	5(100%)	252(100%)

The ages of five children were unknown, and ophthalmologic data were incomplete on this entire group.

Comparison of the Findings by Age Group—A higher percentage of visual abnormality was found in the older age group, but significant numbers of children with visual abnormalities were found in all groups. Approximately one of every two children in the school-age group, almost one of three children of the preschool group, and almost one of four of the infant group were found to have a visual abnormality.

Children Referred for Ophthalmologic Care—Of the 252 children, the consulting ophthalmologist of the Bureau for Handicapped Children recommended referral of 19 children (8 per cent) to an ophthalmologic treatment agency. The 19 children recommended for referral for eye care represent 24 per cent of the 78 children found to have a visual abnormality, requiring care other than the refraction—which is done in the eye clinics. (The diagnoses are shown in Table 2.)

Table 2—Diagnoses of Children Referred to Ophthalmologic Treatment Agency

Diagnosis	Number of Children	
Developmental Anomalies of Structure	3	
Blue Sclera		1
Dacryostenosis		2
Diseases or Defects of Eye Due to	3	
Optic Atrophy		2
Retrolental Fibroplasia		1
Refractive Errors	2	
Myopia		2
Defects of Muscle Function	9	
Strabismus		8
Nystagmus		1
Diagnosis Deferred	2	
Total	19	

The school-age group had the highest percentage selected for referral, four children or—11 per cent; followed by the infant (five children or—8 per cent); and preschool (10 children or—7 per cent). Only two of 19 children referred were previously known to an ophthalmologic treatment agency. In addition to the 19 children recommended for referral to ophthalmologic treatment agencies, 57 (23 per cent) children with incomplete examinations were recommended for re-examination by the eye clinics within a period of time varying from three to 12 months.

Discussion

A significant finding of this study of the ophthalmologic status of this group of children is that 40 per cent of the children (for whom complete data were available), or two of every five children, were found to have some type of visual abnormality. That this percentage is relatively high and that this group of foster children represents an excellent source from the viewpoint of ophthalmologic case finding are apparent.

It is also of significance that of the group for whom complete data were available, three of every five school children, two of every five preschool children, and one of every four children under the age of two years, were found to have a visual abnormality. The fact that more than half the school-age foster children have a visual abnormality is especially significant. Whether this group of foster children under the aegis of the City Department of Welfare is representative of all children in the community is unknown. It would be of interest to repeat this study using children of all socioeconomic groups and ages.

The fact that such a relatively high percentage of preschool children was found to have a visual abnormality was unexpected and is important. If this finding is applicable to the community as a whole, it would be highly important to initiate a community-wide vision screening program for all preschool children. Logical places to start such a preschool program would be in the Department of Health's Child Health Stations; in temporary shelters for children; long-term child-caring institutions; and in day care centers.

This study proved useful to the Bureau for Handicapped Children in another area, since it served as a tool to evaluate the services offered by the eye clinics. The fact that 23 per cent of the children had incomplete data on the study form means either that the ophthalmologic examinations were incomplete or that the recording was incomplete. This finding has been used as a basis for discussion with the supervising ophthalmologists of the Eye Clinic Service and with the ophthalmologists working directly in the eye clinics in an effort to improve the quality of service that is given.

Summary

Of 252 foster children (infants, preschool, and school aged) examined who were under the care of the City Department of Welfare, 31 per cent of the total group were found to have a visual abnormality. The percentages were 24 per cent, 30 per cent, and 51 per cent respectively in the infant, preschool, and school-aged groups. The largest single diagnostic group was composed of refractive errors. Defects of muscle function ranked second in frequency.

Nineteen children with visual abnormality (8 per cent) were referred to an ophthalmologic treatment agency. In addition, 57 children (23 per cent) were recommended for re-examination in the Bureau for Handicapped Children's eye clinics. The percentage of children for whom the data were incomplete was 23 per cent.

Significance of Enteric Bacilli in Foods

GAIL M. DACK, M.D., Ph.D.

Health officers face a perplexing problem at the moment whether or not to establish standards of acceptability for products like orange juice that may be based on those for carbonated beverages, milk or water. An over-all view of the health official's dilemma is presented here, together with some suggestions.

✞ Changes in preservation, distribution, packaging, and processing of foods have had a profound effect upon the food habits of the people of the United States. These changes which have lightened the load both of the housewife and public purveyors of food have eliminated much of the drudgery involved in the preparation of meals. When changes are instituted, new problems arise, however, and many of these have been anticipated in so far as nutrition is concerned. For instance, the end product may be fortified with added vitamins or nutrients. A problem that sometimes is inapparent is whether the end product is a carrier of pathogenic organisms or their products. A dried food may harbor pathogenic bacteria and when water is added it may support growth of these microorganisms, thereby increasing the health hazard.

From 1938 to 1951 [1] from three to 12 outbreaks of botulism have occurred annually, with no indications that serious hazards of this source have been traced to newer methods of food processing. Within this period food infection and food poisoning, excluding milk and milk products, have varied from 42 to 338 outbreaks annually involving approximately 2,000 to 12,000 cases. Obviously, these reported outbreaks may represent only a small fraction of the food illness occurring either in large groups or in the individual home. There were instances where the same pathogenic organism was found in a processed food and in the stools of individuals eating the product. This number of outbreaks is not alarming in a country of 165 million people. However, from the public health standpoint, these outbreaks are preventable.

Foods on which pathogenic organisms can live may cause illness depending upon the kind and number of microorganisms on the food at the time it is eaten. Heat processed, canned foods ordinarily are not involved in foodborne illnesses but if the food is carelessly handled after the can is opened subsequent contamination may occur. Where food is a good medium for the pathogenic contaminant and it is not properly refrigerated, the pathogen may multiply and illnesses follow its consumption.

Nonsterile processed foods which are served without cooking—for example, cereals and baby foods—that are suitable for the growth of pathogenic microorganisms, are sometimes involved in food poisoning outbreaks. Often, cooking of these foods consists in their being merely warmed before serving, or the nature of the food may be such that there is inadequate heating to kill all pathogenic bacteria. Dried eggs containing Salmonella may be reconstituted and made into an omelet without de-

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stroying all viable Salmonella.[2] Fruits and vegetables that are eaten without cooking may be contaminated with fecal bacteria. In England and Wales,[3] out of 202 outbreaks (1950) attributed to Salmonella, one was traced to dried vegetables and four to fresh fruit.

Processed unsterile foods may become contaminated with enteric bacilli. The public health problem then arises as to the significance of coliform bacteria in food. Since untold numbers of coliform bacteria are propagated in the intestinal tract of man and animals it stands to reason that some of them may contaminate unprotected foods handled by man. Since Salmonella are widespread in the intestinal tract of man and animals, although not as common as coliform bacteria, it might also be assumed that these in smaller numbers might also be found in some of our nonsterile foods. Some special types of the coliforms themselves in sufficient number may cause illness.

Public health and food and drug officials may well be proud of the health record resulting from the consumption of water which has been judged for purity by its coliform content. Water may be obtained from sources relatively free from coliform bacteria or may be treated by sedimentation, filtration, and chlorination to remove intestinal bacteria. Raw milk contains coliform bacteria but when it is properly pasteurized it should be free from coliforms. As a matter of fact the test for coliforms in milk is a more sensitive test for adequate pasteurization than the phosphatase test. Leaky valves that allow some of the raw milk to contaminate the pasteurized milk could be detected only by the coliform test if the contamination was slight. On the other hand, the practicality of the coliform test is questionable for measuring the safety of nonsterile foods which are eaten uncooked or without adequate cooking. In some instances, product control laboratories in the food industry pass as acceptable a food with a low coliform number and without Salmonella.

With some plant foods the question has been raised whether the coliform organism is of intestinal origin or a plant pathogen of the genus Erwinia. The coliform group of organisms includes strains which are of nonanimal origin. The definition of the coli group with all its qualifications only adds to the confusion. Kauffmann,[4] a student of the intestinal bacteria, defines the coli group as follows: "A large group of serologically related Gram-negative, nonsporing rods, showing, with certain exceptions, a motile peritrichous phase in which they normally occur. They usually form indole and give a negative Voges-Proskauer test, but a positive methyl-red reaction. They do not decompose urea and usually they do not grow on ammonium citrate agar. Gelatin is not liquefied." From this description "with certain exceptions" and "usually," it is obvious that no clear-cut laboratory tests are at present available to identify positively an organism of fecal origin.

Parr, a student of the coliform bacteria, has aptly expressed in two of his papers the futility of wrestling with the problem of whether or not a coliform organism is of fecal or plant origin. In a review of the subject he states: "An understanding of the complexity of the group as revealed by the application of a wide variety of biochemical tests and an appreciation of its variability and changeability has convinced workers of the futility of attempting to give species rank to more than a few of the many types that have been described. This point of view has been strengthened by the apparent failure thus far to demonstrate that certain strains are peculiar to a given environment or activity. It appears rather that coliform bacteria must be thought of as a well-nigh ubiquitous group of organisms."[4a]

In a paper on coliform organisms in

human feces he makes the following conclusion: "Study of 1,987 strains of coliform and related organisms from 235 stools submitted by one hundred subjects has yielded data which show that there is great variability in the so-called normal coliform flora and in the flora of the same individual from day to day. Stool specimens may contain no coliform organisms at all and citrate utilizing forms may be present to the exclusion of the colon bacillus. No hope is offered for short cuts or simplifications in the bacteriology of water and foods through the domination of a typical intestinal form." [4b]

What is the legal status with reference to coliform bacteria in food? State food and drug officials have levied fines on some food processors because of coliform bacteria in their products. Herrick,[5] a member of the New York and Federal Bars, in a book "Food Regulation and Compliance," makes the following statement:

"It has already been indicated that food which bears or contains pathogenic organisms may be considered to be filthy within the act.[6] However, it must be admitted at the outset that, as the Food and Drug Administration concedes, 'the detection of such pathogens is difficult, indeed, rarely possible.'[7] It has therefore become the practice, under certain conditions, to utilize the presence of coliform bacteria as one of the indicia of pollution and possible danger to health.

"It is, however, necessary to bear in mind that members of the coliform group are not ordinarily regarded as pathogenic organisms. Moreover, the group as a whole, is ubiquitous with the result that it cannot be said with absolute certainty that their presence in the food is in every instance due to fecal contamination. On the other hand, it is commonly recognized that some of its species, such as Escherichia coli, do have their natural habitat in the intestines of warm-blooded animals, and therefore their detection does serve as some indication that the product has suffered unclean handling or contact, although it is not, as indicated, conclusive in any sense of such contamination. The Food and Drug Administration has delineated its proper position in sanitary inspection:

"In order to interpret the findings of Escherichia coli, the member of the group of known fecal origin on which regulatory actions are sometimes taken, a background of correlative data is needed. With knowledge that crabmeat and shelled nuts are free from Esch. coli as they start through the processing plant, this organism serves satisfactorily as evidence of pollution when such evidence is supported by inspectional data to explain the method of its access to the food. In the control of oysters and water it is also useful within certain limitations. Examination of a food product for the presence of Esch. coli is of value only when the history of the product is known or can be ascertained. Similarly, the examination of specimens from a plant is of value only when there is evidence, or when evidence can be obtained, to indicate pollution with the excreta of warm-blooded animals, including man. It must be borne in mind that the test for Esch. coli is a test for fecal pollution.[8]

"This statement should not lead us to the conclusion that contamination with Esch. coli does not constitute filth. On the contrary, the Government has often proceeded against products on the ground that they contain a filthy substance by reason of the presence of these organisms which the Notices of Judgment describe as indicating pollution of fecal origin."[9]

An evaluation of Florida frozen concentrated orange juice from the public health standpoint, applying the above considerations, will illustrate the point. First of all, frozen concentrated orange juice is a nonsterile product hermetically sealed in tin cans for protection from outside contamination while in transit. Mr. Glen Hays of the American Can Company has kindly supplied me with the laboratory data with which to evaluate this product. Laboratory studies have demonstrated that coliform organisms are present in the end product, regardless of the amount of washing and care given the oranges during processing. Only sound fruit and stainless steel equipment of the quality found in the better milk establishments were used in the experiment. Clean-up and sanitation procedures similar to those employed in the best milk establishments were also followed. Throughout the processing, the

fruit in the plant was not touched by hand. Yet, in spite of the care and excellent sanitation practiced, coliform bacteria appeared in the end product.

Strains of E. coli of fecal origin experimentally inoculated into orange concentrate and stored at 0° F. were found to remain viable for at least 12 months. Coliform bacteria natural to the concentrate, as well as a strain of E. coli experimentally added to orange concentrate at 85° F., were found to decrease rapidly in number upon storage.

Fruit picked aseptically into sterile bags was frequently found to yield coliform bacteria. The irrigation and spray water from lake sources was found to contain coliform bacteria. Whether the spray and irrigation water was the source of the strains of coliform bacteria found in the orange juice cannot be established with the available evidence at hand. Certainly decontamination of oranges with 0.1 per cent Duponol was not effective. Tomatoes,[10] like oranges contaminated with E. coli, growing on sewage polluted soil, sprayed with E. coli or a fecal suspension are difficult to free from E. coli. Under ordinary storage conditions E. coli persists upon the tomato. Vigorous washing of tomatoes with plain water for 15 minutes does not remove coliforms where tomatoes are grown upon polluted soil, although it does rid them of sprayed E. coli. Vigorous washing of tomatoes with anionic, nonionic, and cationic detergents is not materially better than plain water washing. Chlorine or its compounds in high concentration in solution does not remove organisms either protected by dirt, or found in cracks, crevices, and bruises upon tomatoes. The contour of the surface of the orange contains many hideouts for microorganisms. The experimental problem of studying surface contamination of the orange is complicated by the bacterial substances liberated in the orange peel when an attempt is made to remove surface contamination.

Millions of cans of frozen concentrated orange juice have been consumed without causing any known cases of enteric infections. If the product were mishandled and allowed to thaw, the resultant effect would be fewer viable coliform bacteria.

If the coliform bacteria in frozen concentrated orange juice were fecal in origin one might expect that occasionally a viable Salmonella organism or a pathogenic coliform might be present. If this were the case no ill effects would be anticipated, since Salmonella would not multiply in the orange juice concentrate and the dosage level would undoubtedly be much lower than the number of Salmonella naturally ingested from other sources. The work with human volunteers of McCullough and Eisele [11a-11d] indicates that from hundreds of thousands to millions of Salmonella are required to produce illness. Ferguson and June [12] fed three strains of E. coli 111, B_4 from infant diarrhea, to adult human volunteers. Five hundred and thirty million cells were required to produce a mild illness, whereas nine billion organisms fed to 12 people caused severe illnesses in three cases, moderate in seven cases, and slight in two cases. The relatively few coliforms found naturally occurring in frozen orange juice concentrate do not pose a public health problem.

The problem of the public health significance of E. coli in foods confronting food and drug administrators and public health officers is complex. No reputable food industry condones poor sanitation or practices which would render a product unsafe for human consumption. With improvement in technical methods for detecting fecal contamination, smaller levels of contamination are being found. The question for all of us in the case of nonsterile foods is whether a small amount of fecal contamination can be avoided. In careful

hospital studies in England, Rogers [12] has shown that a nurse's fingers, after being thoroughly washed and dried, were contaminated by a strain of E. coli present in a cubicle ward. The contamination in the cubicle was as follows:

> "The dust from the floor, the bath, the plug that went into the bath, the table used whilst the baby was being fed, the cot side, blankets and sheets, toys, the thermometer and the powder in the nursing chair of each child, the cracks where the window panes are sealed into the metal framework, the ledge on which notes were rested and the hand-towel used to wipe the hands of anybody handling a baby, were all heavily contaminated with the type strains of Bact. coli.
>
> "The floor polisher and broom used to sweep out all the cubicles were found to be heavily contaminated with the type strain of Bact. coli. On one occasion the broom was washed in 5 per cent lysol and hung out in the sun to dry, but even this treatment did not kill the type strains of Bact. coli."

The same strain was found to survive during 27 days in dust. The relative ease with which a specific strain of E. coli was disseminated in the wards of the hospital should be no greater than the ease with which strains could contaminate our foods.

From the evidence at hand it appears that coliform bacteria, probably of intestinal origin, are a part of our everyday menu. Good public health procedures and sanitary practices serve to reduce this fecal contamination, but it is doubtful even with the best sanitary practices that it can be eliminated. At the present time if no coliform bacteria were allowed in the foods which are served, then raw fruits and vegetables, dry cereal products, and many other processed foods would be excluded from the diet and only thoroughly cooked hot foods could pass the test. Obviously, the reported incidence of illness from outbreaks of food poisoning in this country is very small and does not indicate the need of such drastic measures.

The food processor, however, does face local health authorities who may not have given as much over-all thought to the problem and who attempt to apply standards for water and soft drinks to a natural product such as orange juice. Before interpreting the significance of coliform bacteria in food it is necessary to weigh all of the evidence previous to establishing regulations and standards.

Consideration should be given to the history, methods of processing and the treatment of the product before its consumption. An example may be taken with another food, such as meat. Enteric bacteria are present on the surfaces of fresh meat, since in abattoirs no technic has been developed to remove the intestinal tract aseptically. If meat is cured and subjected to salt concentrations or heat, enteric bacilli may not survive, or if they survive they may not grow. Raw meat with its natural enteric flora has rarely been associated with illness in man. As a rule, meat is cooked before it is eaten. And after cooking or processing, meats must be protected from subsequent contamination.

In no case should poor sanitation, or faulty processing equipment, or methods be an excuse for abnormal numbers of enteric bacilli in foods. On the other hand, public health authorities are urged to take cognizance of the fact that our environment and the nonsterile foods in our habitat contain enteric bacilli, regardless of our efforts to eliminate them.

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Home Accident Prevention Program

A program aimed at decreasing the number of home accidents and resulting deaths is under way in the Pennsylvania Health Department. It is hoped to provide the impetus and tools for community action in selected areas of the state. Educational materials and consultant assistance in home accident prevention is being made available to local health departments, state health districts, medical societies, service clubs, PTA's, and other groups interested in the problem. State health workers, primarily nurses and sanitarians, are incorporating home accident prevention activities in their day-to-day home visits. The program is under direction of senior sanitarian, Hugh C. Sarraf, in the Division of Environmental Health Services headed by Karl M. Mason.

Home accidents rank ninth among the causes of death in Pennsylvania. In 1953 more persons were killed in home accidents than in automobile accidents. Accidental falls caused more deaths than syphilis, poliomyelitis, rheumatic fever, influenza, and appendicitis combined.

Further Experience with a New Blood Medium for the Cultivation of Mycobacterium tuberculosis

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In addition to its report upon a culture medium for M. tuberculosis which is of especial value for the small laboratory, this note serves to remind us that tuberculosis remains the Number One communicable disease problem and one that is far from solved.

In previous studies [1, 2] it was demonstrated that human blood incorporated into a variety of agar bases was capable of initiating early growth of small inoculums of tubercle bacilli. In subsequent investigations [3-6] it was found that a modified medium containing plain agar, glycerol, outdated bank blood, and penicillin was satisfactory for the cultivation of tubercle bacilli under routine diagnostic conditions. It was found also that the medium was useful for determining the susceptibility of tubercle bacilli to streptomycin and isoniazid (isonicotinic acid hydrazide).[7-9, 21] This report deals with some further experience comparing the new blood medium with Lowenstein-Jensen [10, 11] under routine diagnostic conditions.

Materials and Methods

The formula and method of preparing the blood medium are given below. Blood Medium—Plain agar,* 1.5 gm; glycerol (analytical grade), 1.0 ml; human bank blood (with ACD solution, see below), 30.0 ml; water (distilled), 69.0 ml; penicillin (100 u/ml.) †; final pH approximately 6.8.‡ Preparation—The agar was dissolved in the glycerol water by heating. The mixture was sterilized by autoclaving at 15 pounds pressure (121° C) for 15 minutes, after which it was cooled to 45° C in a water bath. The blood and penicillin were added, the ingredients thoroughly mixed, and the medium dispensed aseptically into sterile screw-cap tubes and allowed to harden into slants. The flask was kept in a beaker of water in the bath to prevent tipping when the medium became depleted during the tubing process and was shaken frequently to maintain thorough mixture. Outdated human bank blood approximately four weeks old was used and contained ACD solution as follows: citric acid, 0.50 gm; sodium citrate, 1.37 gm; and glucose,

* Retort Pharmaceutical Company, Long Island City 1, N. Y. Lot No. 17Y.

† Crystalline potassium penicillin G obtained from various manufacturers. Aqueous preparations of the antibiotic increase the pH approximately 0.01–0.1 of a pH unit.

‡ Determined by the Beckman pH meter.

Dr. Tarshis (now assistant research bacteriologist, Department of Bacteriology, University of California, Berkeley, Calif.) was formerly director, and Mr. Weed, Miss Kinsella, and Mr. Parker are research assistants, Tuberculosis Research Section, Veterans Administration Medical Teaching Group Hospital, and Dr. Dunham is director of the General Medical Research Laboratory, Memphis, Tenn.

2.45 gm per each 100 ml of transfusion solution. Approximately 500 ml of blood were collected in Baxter Transfuso Vac bottles * containing 120 ml of ACD solution. To obviate possible inhibitory effects of any single blood, several specimens of the same type were pooled before use. However, as yet this has not been found to be a problem.

The Lowenstein-Jensen medium [10, 11] was prepared essentially as directed. All mediums were checked for sterility and then stored in the refrigerator before use.

Seventy-two hour sputum specimens from tuberculous patients were used for study. The sputa were concentrated by the sodium hydroxide method [12] and two tubes of each medium were inoculated with equal quantities of sediment from each specimen. The tubes were incubated at 37° C in a nearly horizontal position to permit uniform distribution of the inoculums. All tubes were capped loosely for varying periods to permit evaporation of excess moisture and then tightened to prevent drying of the mediums. Readings were made daily under a bright light for a period of eight weeks. Stained preparations of questionable colonies were examined microscopically.

Results

A summary of the results is presented in Table 1.† It will be seen that of 4,050 specimens, 1,515 were positive. Of these, 94.2 per cent were obtained on the blood medium as compared to 90.1 per cent on the Lowenstein-Jensen medium, or a difference of 4.1 per cent, which is not significant. One hundred and sixty strains of tubercle bacilli grew on the blood medium but failed to do so on the Lowenstein-Jensen, and 100 strains that grew on the latter medium failed to develop on the former.

The average time of first appearance of growth on the blood medium was 18.5 days compared to 21.6 days on the Lowenstein-Jensen medium, or a difference of 3.1 days less required for growth on the former medium.

During the first week 2.6 per cent of the specimens were positive on the blood medium as compared to 0.4 per cent on the Lowenstein-Jensen. After three weeks the number of positive findings on both mediums were more nearly equal, showing 71.7 per cent positive cultures on the former medium and 66.5 per cent on the latter.

Contamination was less on the blood medium than on the Lowenstein-Jensen. Of 8,100 tubes of each medium, 408 of the blood were contaminated (5.0 per cent) as compared to 578 of the Lowenstein-Jensen (7.1 per cent) which is significant at better than the 0.1 per cent level ($p<0.001$).

Although not included in this report, it should be pointed out that during this study approximately 500 tuberculous exudates from various lesions were cultured on the same two mediums under the same conditions and essentially similar results were obtained as with the sputum specimens.

Discussion

As described in previous studies,[1, 4] four different types of colonies of virulent human tubercle bacilli have been observed thus far on the blood medium. When first noted they are pinpoint in size, light gray, glistening, and easily recognized against the red background of the blood when examined under a bright light. They gradually increase in size and reach maximum growth in about five to six weeks. Colonies are usually typical within two weeks. When mature, they vary greatly in diameter from approximately 1 to 10 mm and as-

* Baxter Laboratories, Inc., Morton Grove, Ill.

† Method of reporting adopted from article by Melvin, et al.[13]

Table 1—Comparison of Blood Agar-Penicillin and Lowenstein-Jensen Mediums Under Routine Diagnostic Conditions

A. General Analysis of Specimens

Total number of specimens	4,050
Total number of positives	1,515
Total number of negatives	2,269
Total number of contaminated	266

B. Comparison of Growth on Different Mediums

	Number	Per cent
Positive blood, positive Lowenstein-Jensen	1,267	83.6
Positive blood, negative Lowenstein-Jensen	160	10.6
Negative blood, positive Lowenstein-Jensen	100	6.6
Total positives, blood	1,427	94.2
Total positives, Lowenstein-Jensen	1,365	90.1

C. Comparison of Rate of Growth

Average number of days first appeared, blood	18.5
Average number of days first appeared, Lowenstein-Jensen	21.6

Time of First Appearance (In Days)	Blood		Lowenstein-Jensen	
	Number	Per cent	Number	Per cent
1–7	37	2.6	6	0.4
8–14	368	25.8	340	24.9
15–21	618	43.3	563	41.2
22–28	226	15.8	249	18.2
29–35	77	5.4	109	8.0
36–42	81	5.7	63	4.6
>42	20	1.4	35	2.6

D. Comparison of Contamination

	Number	Per cent
Total number of tubes of each medium	8,100	
Number of tubes contaminated, blood	408	5.0
Number of tubes contaminated, Lowenstein-Jensen	578	7.1

sume a tannish-gray or red color, but some may become dark tan with a slight greenish cast. Other colonies may acquire varying combinations of these colors. Depending upon the size of the inoculum, growth on the blood medium, in some instances, can be detected as early as two days.

When contamination occurs growth is usually confluent and nearly always takes place within 24–48 hours. The medium also turns dark and in some instances almost black. Uncontaminated mediums will retain their original color during the early period of incubation but later will turn slightly to moderately darker. Occasionally contaminants appear late, and fungi almost always so occur. Stained preparations of questionable colonies should always be examined microscopically.

Of interest is the further observation that there was less contamination on the blood than on the Lowenstein-Jensen medium. This is attributed to the addition of penicillin to the former medium. The value of this antibiotic as an adjunct in culturing tubercle bacilli from contaminated specimens has been reported previously.[2-5, 14-19] In the concentration used in this study (100 u/ml of medium) and under the conditions described, penicillin is not inhibitory to tubercle bacilli.[3-6]

In this as well as in previous investigations,[2, 4, 5] it has been found that a

number of strains of tubercle bacilli grow on one type of medium but not on another. It has been observed also that certain dysgonic mycobacteria grow better on blood than egg mediums. This, again, emphasizes the cultural variability of some strains of tubercle bacilli and a maximum efficiency for isolation is not likely to be achieved by the use of a single medium. For this reason, and because of its efficiency, it is felt that the blood medium should be included with other mediums for routine diagnostic work. It is believed also that it would be the medium of choice for the small laboratory in which the culture for Mycobacterium tuberculosisis is limited by the difficulties in preparing or procuring the more elaborate and expensive mediums.

It was found also that the blood medium was useful for determining the susceptibility of tubercle bacilli to streptomycin and isoniazid (isonicotinic acid hydrazide),[7-9, 21] an important procedure in therapy. Since it fulfills the criteria of a satisfactory medium for this purpose and also because it compares favorably with other mediums in current use, it should be investigated further for its value in the determination of the susceptibility of tubercle bacilli to other antimicrobial agents.

Confirmatory studies on the use of blood mediums for the cultivation of M. tuberculosis under routine diagnostic conditions have recently been reported by Hosty, et al.,[18] Clark,[19] Reinisch,[20] Maccabe and Gould,[21] Hsiung and Haley,[22] and Bojalil and Lladó.[23]

Summary

In the study described it has been demonstrated that a modified blood medium containing plain agar, glycerol, outdated human bank blood, and penicillin was satisfactory for the cultivation of tubercle bacilli under routine diagnostic conditions.

In comparison with the Lowenstein-Jensen medium it was found that the number of positive cultures obtained and the average time of first appearance of growth were slightly better on the blood than on the Lowenstein-Jensen medium. The number of tubes contaminated was much less for the former than the latter medium, which is attributed to the penicillin.

The chief advantages of the blood medium are economy, simplicity of preparation, and ability to grow tubercle bacilli from small inoculums, easily, recognizably, and in a short time. The ingredients are readily obtainable and fresh mediums can be prepared in a few minutes. Refrigerated mediums have proved exceedingly stable in tightly sealed screw-cap tubes for as long as four months. All these factors should encourage a wider use of cultural methods for the bacteriologic diagnosis of tuberculosis.

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USPHS Regular Corps Examination

A competitive examination for appointment of medical officers to the Regular Corps of the U. S. Public Health Service will be held on November 15, 16, and 17, 1955 at a number of points throughout the United States, located as centrally as possible in relation to the homes of candidates. The Regular Corps is a commissioned officer corps composed of members of various medical and scientific professions, appointed in appropriate categories such as medicine, dentistry, nursing, sanitary engineering, physical therapy, pharmacy, and others. Entrance examinations will include an oral interview, physical examination, and comprehensive objective examinations in the professional field. Numerous opportunities in the fields of clinical medicine, research, and public health are available for physicians in the Public Health Service throughout the United States and overseas.

Application forms from Chief, Division of Personnel, Public Health Service, Washington 25, D. C., and applications must be received no later than October 15, 1955.

American Journal of

PUBLIC HEALTH

and the Nation's Health

Official Monthly Publication of the American Public Health Association, Inc.

Volume 45 | September, 1955 | Number 9

The Gamma Ray and the Elimination of the Screwworm Fly in Curacao

Public health workers will find interest in the story of the successful eradication of one insect pest from an insular area. The screwworm is primarily a pest of livestock in the southern states, though it does spread to northern states in summer weather. According to the U. S. Department of Agriculture, the fly lays its eggs in open wounds on livestock and other animals. The larvae, after hatching, feed on the wound or surrounding flesh, causing great pain and frequently loss of the animal if the wound is not treated.

Entomologists of the Department of Agriculture have announced that the screwworm fly has been eradicated from the West Indian island of Curacao. A new concept in insect control has been used which may set the stage for similar eradication effort against this pest in the southeastern United States and conceivably may provide a pattern for other insect problems.

The entomologists of the United States in cooperation with the officials of the Netherlands West Indies exploited the fact that female screwworm flies mate only once by saturating the wild population with thousands of laboratory-reared male flies, made sterile by exposure to gamma rays from radioactive cobalt supplied by the Oak Ridge National Laboratory. Success of the Curacao campaign depended upon the degree of infiltration that could be achieved by release of sterile males. In theory, we are told that if release was at the rate of five sterile males to every normal male, the new generation should be 80 per cent lower than normal.

On Curacao the first sterile males to the number of 52,000 were distributed over the island from a plane on March 26, 1954. Subsequently, a release rate of 100 sterile males a week was made for each of the island's 170 square miles. Trapping of flies indicated that this release rate was reducing the population but not rapidly enough for eradication. Therefore, on August 1, 1954, the weekly release rate was raised to 400 males per week. Not a single screwworm fly or their eggs have been found since November 4, 1954 (a period to date of about six months). Neither has anyone reported screwworms in livestock or other animals.

In the United States screwworms occur both in Florida and Texas and each year move north into surrounding states, causing livestock losses estimated at $20 million. An earlier field test of an eradication method on an island off the coast of Florida revealed that flies from the nearby mainland were able to reinfest

the island. However, it is hoped that in Florida the infestation can be treated in a manner similar to that in Curacao because each winter the cold weather pushes the screwworm survival line deep into Florida and offers an appropriate time to strike. A more difficult problem arises in Texas because of the bordering Mexico areas. An international approach seems indicated.

The exploitation of accurate information about the insect was and is a prerequisite to the control of the problem. The new tool in radioactive isotopes also points up the overlying unity of values in scientific research and advancement.

The Demand for Babies and the Way People Behave—Sometimes!

The demand for babies for adoption by couples convinced that they cannot have children of their own has become intense. As what frequently and unfortunately happens when demand far exceeds supply, many unwholesome situations have developed around this commendable eagerness for parenthood.

Newspaper reports, court records, and reports of social agencies in recent years give ample indication of the seriousness of this problem. Couples unable to obtain, or delayed in obtaining, a baby for adoption are led into negotiations with unauthorized or unqualified middlemen. Financial and emotional pressures are put on unmarried mothers to relinquish their babies immediately after birth. Authorized adoption agencies are bypassed. Laws designed to protect the interest of babies and their natural and adopting parents are flouted. Expensive and prolonged court actions, that inflict pain and frustration on the parties involved, sometimes result.

Most flagrant of all the unwholesome developments has been the so-called "black market in babies," known to exist in various parts of the country and suspected of operating in others. Here middlemen "sell" babies they know little about to couples they know less about for a price unrelated to the legitimate services rendered natural and adopting parents.

How many lives are affected by malpractices in adoptions cannot be statistically stated. Some 90,000 children were adopted in 1953, of which about one-half were adopted by related persons. Of the other half, some 25,000 adoptions were through authorized social agencies. The remaining 20,000 children were independently placed. These children, together with their natural and adopting parents, are most vulnerable to the heartaches and disappointments of unguarded adoptions.

Most babies involved in independent adoptions are born to unmarried girls. Often dependent on the community for help, many of these girls do not know where to find it. One of the most common reasons why unmarried mothers agree to give up their babies in advance is that they lack the means of securing medical and hospital care at confinement and knowledge of how they can secure such care.

The Children's Bureau is currently studying independent adoptions to find answers to such questions as these: Why do natural mothers entrust their babies' future to strangers? What are the services these mothers and babies need and where are they lacking? Why do adopting parents bypass the social agencies communities provide for the protection of parents and babies? How can the medical, legal, and social service professions assure that all adoptions are carried out so that they prove a satisfying experience for all concerned?

Too many health workers have left social workers to struggle pretty much alone with the problems of unmarried mothers. So often these problems may have serious physical and mental health aspects. Out of discussions with specialists in social agencies should come a clearer understanding of the size and character of the local problem, the kind of mutual aid which health and social workers might give each other, and the specific function which each worker on the public health team might carry. The public health nurse, for instance, would know where to turn for help for the unmarried mother who is getting the medical attention she needs, but cannot decide whether to keep her baby when it is born. The social worker, in turn, would be well posted on the medical services to which she can refer an expectant mother.

Public health workers will soon find that they are invaluable "case finders." Some of the girls who should be reached by social workers will be spotted by doctors and nurses in school health and industrial health programs. Nurses visiting in homes will find others.

Public health departments have resources, too, that can be used in getting more and better medical care during pregnancy and at confinement. Connecticut, for example, has been conducting an experimental program in three counties, using maternal and child health funds to pay for the medical care of unwed mothers financially unable to pay for it themselves. An excellent by-product of this has been that these mothers have been referred early to a social agency for help in planning for the future of their babies and so have been protected against the pressures both of well intentioned individuals and of importunate middlemen.

Pandemic Influenza

One of the most fascinating yet puzzling aspects of influenza is the apparent occurrence of two forms of the disease: one a relatively mild epidemic form recurring at intervals of one to two or more years, the other a severe pandemic form occurring irregularly at intervals of two to four decades. Yet there are no clinical or epidemiologic reasons for doubting that both forms are truly "influenza," and laboratory data, based on analyses of strains of virus and of human antibodies, are at least compatible with this conclusion. The fact remains, however, that the virus, or viruses, responsible for the last great pandemic—that of 1918–1920—were not isolated. Thus the exact nature of the primary causative organism is unknown and may well continue to be so.

The pandemic of 1918 was characterized by world-wide distributions, high incidence, and high case fatality, resulting particularly from pneumonia due to secondary bacterial invaders, such as staphylococci, streptococci, and influenza bacilli. A unique feature was the high death rate in the 20- to 40-year age group. In contrast to this behavior, outbreaks of influenza since that time have varied greatly in extent and incidence and in general have had low mortality and a low incidence of pulmonary complications. Only rarely have outbreaks, as in New England in 1941 and Liverpool in 1951, been associated with appreciable numbers of cases of staphylococcal or other bacterial pneumonias. Yet in epidemic periods the death rates for all causes—as well as for pneumonia and influenza—have been increased, although to apparently decreasing degrees. The age distribution of the fatal cases has not been that of the 1918 pandemic; the preponderance of deaths has been in the older age groups. These behavioral differences, although unex-

plained, do not in themselves require that the existence of two separate and unrelated causative agents be postulated.

Despite a lack of exact knowledge of the nature of pandemic viruses, inferences may perhaps be drawn from the extensive studies carried out since the isolation of the swine influenza virus in 1931 and the subsequent isolation of human influenza viruses, Types A, B, and C and their respective subtypes. Cases clinically characteristic of those occurring in pandemics have been confirmed as influenza by viral isolations and antibody responses. Identification of apparently new mutants or subtypes has made it possible to follow their epidemic spread from small foci to widespread epidemics. The A-prime strain, for example, was first detected in Australia in 1946 in limited outbreaks. In 1947 it produced an extensive epidemic in this country and occurred sporadically in Europe. In 1948–1949 it was responsible for an epidemic which arose apparently in Sardinia and Italy and swept northward across the continent to the British Isles and Scandinavia. Mutants or new subtypes, whether arising spontaneously or induced in the laboratory, have common properties by which they can be typed and related to the older or original strains. Moreover, serologic studies of human sera from different age groups reveal an antibody spectrum ranging from dominance of antibodies to the swine influenza virus, which is closely related to Type A virus, in the older age group to a dominance of antibodies to the new subtypes in the younger age groups. It therefore seems reasonable to assume, as has Francis,[1] that a "pandemic" may be produced by one or more strains of the influenza viruses that for unknown reasons acquire unusual virulence or biologic properties, either with or without major changes in antigenic character.

The probability and time of occurrence of another pandemic of influenza cannot now be predicted, nor can the efficacy of any measure—including vaccine—for prevention or control be estimated. In the event of a pandemic, however, there is hope in the prospect that modern antibiotic therapy will markedly reduce the death rate from bacterial complications.

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(The Journal is indebted to John H. Dingle, M.D., professor of preventive medicine and associate professor of medicine, Western Reserve University School of Medicine, Cleveland, Ohio, for assistance in the preparation of this editorial.)

Free Reprints Available

The Industrial Hygiene Foundation of the Mellon Institute (4400 Fifth Ave., Pittsburgh 13, Pa.) announces the free availability of reprints of two articles by Theodore F. Hatch, professor of industrial engineering, University of Pittsburgh Graduate School of Public Health. They are "Proposed Program in Ergonomics: Human Engineering," reprinted from May, 1955, Mechanical Engineering. Here Professor Hatch suggests that the American Society of Mechanical Engineers establish a working committee on ergonomics. The second article, "Developments in the Sampling of Air-Borne Dust," is reprinted from the AMA Archives of Industrial Health, March, 1955.

Clearing House on Public Health Salary Information and Personnel Needs

Kansas Surveys State Salaries

The Kansas State Health Department has recently published and distributed to cooperating states its annual survey of salaries of public health workers in state health departments. It shows minimum and maximum salary scales for 40 different positions, definitions of which were included with the questionnaire.

A total of 47 states and the District of Columbia reported the salaries of one or more of these 40 positions; 44 reported on salary levels for director of nurses. At the other end of the scale only 13 states reported salaries for food and drug inspector; only 14 for director, division of food and drugs, and entomologist II. Positions, besides director of nurses, for which 40 or more states reported salaries are bacteriologist or serologist I; director, division of dental hygiene; director, division of public health laboratories; public health nurse II; sanitary engineer I; director, division of sanitation; and technical assistant I (laboratory).

Among the questions asked of the states but not included in the published material are the intermediate steps between minimum and maximum salaries, the highest step at which an employee may be hired, how soon after employment and how often salary increases are granted, and the policy on salary increases beyond the maximum on the basis of length of service. Some of these facts may be available from the Kansas department by correspondence.

This study has been distributed to all the participating state health departments. It should have value also for local health departments involved in setting or reviewing salary schedules.

The Scientific Man Power Situation

Congress has approved an appropriation of 16 million dollars for the National Science Foundation for the fiscal year 1955–1956. This represents an increase of 30 per cent over the current year. Much of this increase, it is reported, will be used to enlarge the foundation's three-year-old experimental program to improve the long-term scientific man power situation. This program is aimed at improving the quality of science teaching, increasing the number of qualified science teachers in high schools and colleges, studying the reasons why currently half of the top 20 per cent of high school graduates drop out of the educational system between high school and college, and identifying the factors that motivate those who choose scientific careers.

A California Recruitment Effort

The California State Department of Public Health has a plan to encourage recruitment of physicians into state and local health department positions. It has an arrangement with separation centers of the Army, Air Force, and Navy in the San Francisco Bay Area to provide the department currently with the names of physicians leaving the armed services. Each physician learns of opportunities in public health through personal contact with a member of the department. A statement of "Opportunities in Public Health" has also been distributed to all physicians now with the state and local health departments so that they may assist in the recruitment effort. This is a brief mimeographed statement describing public health and

the types of work done in California and indicating also the number of medical positions in the state and local departments, the number of appointments made in 1954 and salaries.

Teachers Recruit Teachers

"Wanted: Teachers and Scholars," in the July, 1955, Quarterly Report of the Carnegie Corporation of New York, outlines two programs that are being supported in part by the corporation and directed toward recruitment of persons into the teaching profession. One is the Woodrow Wilson fellowship program begun at Princeton in 1945 with four fellows. The 159 fellows for 1955–1956 represent 109 colleges and universities in 34 states, the District of Columbia, and Canada. The program is now administered by the Association of Graduate Schools and financed both by graduate school and foundation contributions.

The Woodrow Wilson program, reportedly the academic profession's first organized recruiting effort, is directed toward "attracting into teaching and research in the humanities and social sciences some of the most talented young students now finishing their undergraduate studies. The entire burden of recruitment is placed on those most qualified to judge such talent—the teachers themselves."

The other program is the faculty research fellowship program of the Social Science Research Council. This picks up where recruitment leaves off by making it possible for the teacher to have some free time for creative activity. Fellowship recipients are freed from one half their teaching duties for three years and provided with funds for research in fields of their own choosing.

Each of these programs has implications for the recruitment of public health workers. The Quarterly Report is available without charge from the Carnegie Corporation, 589 Fifth Avenue, New York 17, N. Y.

A Sanitarian Recruitment Committee

The Ohio Association of Public Health Sanitarians in 1954 created a Study Committee to Develop a Long-Range Program for Recruiting Sanitarians. It is undertaking to formulate a program through which the OAPHS might contribute to the recruitment of new, qualified sanitarians. One aim is to have more persons train for work as sanitarians at the outset, rather than stumble into the field, as it were, in mid-career.

The committee suggests that OAPHS might develop a state-wide speakers' bureau to discuss the role of the sanitarian, arrange for talks to high school students describing career opportunities for sanitarians, and prepare a speakers' kit for use in community and school talks.

Further recommendations are that aptitude tests be provided for interested candidates to determine suitability for the position of sanitarian and that more attention be given in educational institutions to developing courses specifically designed for the training of sanitarians.

Roy Trumphour, Warren City Health Department, is chairman of the committee.

Credit Lines

The Journal cannot furnish copies of items mentioned in Credit Lines. Please send requests to the addresses given.

Both Sensible and Imaginative

"Feast and Famine: A Survey of Surplus" is an imaginative suggestion for CARE for using up American surpluses of food by the National Advisory Committee. A group of business executives—big business executives—suggests a "food crusade" to distribute surpluses as a major arm of diplomacy.

Here are contrasted the facts of world hunger—it is still true that half the world goes to bed hungry every night—against United States holdings of nearly six billion dollars worth of edible surpluses. The 26 million gross tons of foods the group estimates cost $256 million dollars a year in storage costs, four times what it costs to run Congress. It is suggested, for example, that the total cost of running surplus food programs for Berlin, Vietnam, East Pakistan, and Bolivia for a year would be only four-fifths of what we spend for storage. "It would take the entire population of Baltimore 118 years to consume the equivalent calories of our current surplus" is but one of the dramatic statements highlighting the problem.

These hard-headed business men make what they believe is an eminently sensible proposal to accomplish three ends with one stroke:

> To relieve human suffering, in the tradition of the Golden Rule.
>
> To serve as a bold arm of American foreign policy, countering propaganda that we give generously only of things of war.
>
> To strengthen our domestic economy.

"Feast and Famine" needs to be widely read and its implications even more widely understood. The National Advisory Committee for CARE, 660 First Ave., New York 16, N. Y.

50 Years of a Tuberculosis Crusade

The Hennepin County (Minn.) Tuberculosis Association takes note of its 50-year history with "a progress report of changing services to meet constantly changing community needs." A handsome document in spiral binding, "50 Years of Fighting Tuberculosis" has text and pictures that give a running history year by year, beginning with 1903. The association was founded as a Committee of the Associated Charities, becoming an independent organization in 1920.

The volume is dedicated to the late Kathryne Radebaugh Pearce who was the association's executive secretary for 32 of its 50 years.

A Thirty-Year Knoxville History

The Knoxville (Tenn.) Department of Health has published a 25-page brochure of charts showing the changes in various health indexes in the city during the past 30 years. Infant mortality rates have fallen 74 per cent from 107 to 27.9; tuberculosis death rates, 92 per cent from 134.5 to 10.7; the maternal death rate was almost wiped out, decreasing from 8.5 in 1924 to 0.3 in 1954. Typhoid, diphtheria, smallpox, and pellagra have been virtually wiped out.

On the other hand, public health nursing visits, milk and food sanitation inspections, chest x-rays, laboratory specimens examined, health education activities have either been initiated dur-

ing the period or increased manyfold. These sets of charts should be a telling argument for the essential economy represented by the fivefold increase in per capita expenditures during the 30-year period. Even in 1954 the per capita from all sources—state, federal, city, and other organizations was only a modest $2.37.

The health officer of Knoxville is W. H. Enneis, M.D., M.P.H. The department serves a population of about 125,000.

Salute by a Department Store

Salute to the Department of Public Health was a recent full-page advertisement in the Washington Post Times-Herald by the Hecht Company, one of Washington's large department stores. This was one in a series published by the Hecht Company "to direct public attention to the splendid service rendered our city by the Department of Public Health and other departments of the federal government."

Such a series copied elsewhere might do much to make public health—and indeed other public services—better understood by the public they serve.

Canada's Mental Health Services

A description, in text and pictures, largely makes up the May issue of "Canada's Health and Welfare." This monthly bulletin of the Canadian Department of National Health and Welfare outlines the problems, the respective responsibilities of state and local official agencies and of voluntary organizations, describes available services, and lists some of the films and film strips available in the mental health program. It is a good illustration of simple and effective sharing of information.

The national department has a Mental Health Division and each of the 10 provincial departments has either a full-scale mental health division or psychiatric service through provincial hospitals.

September, Better Breakfast Month!

"Tested School and Community Breakfast Program Activities" is designed as an aid in organizing a Better Breakfast Program in school and community and in teaching this important and needed nutrition lesson. Included in this coordinated Teacher's Source Book of 28 pages is a full color U. S. Department of Agriculture Chart, size 20″ × 26″, showing A Day's Pattern for Good Eating, from the "Basic 7." Cereal Institute, Inc., 135 S. LaSalle Street, Chicago 3, Ill. Free.

Worth Acquiring

"Three to Make Ready" is described as "the drama of total rehabilitation." It is a 45-minute 16 mm sound motion picture film which tells three true stories that are representative of all the seriously handicapped in need of rehabilitation. The emphasis centers on the handicapped client and his return to useful and happy living. Prepared by and available for rent from the Institute for Crippled and Disabled, 400 First Ave., New York 10, N. Y. In color, $10; in black and white $6.

"Pre-Referendum Campaign Manual" is for those areas of the country that are voting on the question of organizing county health departments or of consolidating the services of several counties or other government jurisdictions. It is prepared by the Pennsylvania Health Council, a state in which numerous counties are preparing for referendum votes in coming elections.

Emphasis is upon proper timing, upon lining up the facts, upon orienting campaign workers fully, using all the media of communication, and organiz-

ing early and completely. Pennsylvania Health Council, 303 N. Second St., Harrisburg. No information as to out-of-state distribution.

"The Key to Community Health" is the "case for a community health council," as outlined by the Council on Medical Service of the American Medical Association. It is a good job of simple writing that could be useful for potential local leaders. Its three-color production has eye appeal. An organization chart, a set of helpful hints, and a short but meaty list of references increase its value. Council on Medical Service, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.

"The Public Health Service Today" describes the services as "a member of the family of the Department of Health, Education, and Welfare, a family dedicated to 'the great and humane task of helping the American people help themselves toward a healthier, increasingly more enlightened, and more secure world for themselves and, in this measure, for mankind.'"

There are charts illustrating the place of the Service in the total structure of health services, of the expanding areas of responsibility from 1798 when the care of merchant seamen was begun to 1954 when the Taft Engineering Center was organized.

Organization charts of the various bureaus and regional offices of the Service are shown. Good type, clear photographs, and happily worded text that avoids the more usual "officialese" style all make for a document that will help to make the far-flung activities of the Public Health Service understood.

P.H.S. Publication No. 165, revised January, 1955, Public Health Service, Washington 25, D. C. Free.

"U. S. Government Films for Schools and Industry" is the 1955 catalogue of United World Films. It lists 16mm motion pictures and 35mm film strips classified under 22 government departments and a myriad of subjects from ACTH to Zoology. The Public Health Service is represented in six pages, 27 subjects, and nearly 200 items. U. S. Government Film Department, United World Films, 1445 Park Avenue, New York 29. No information as to price.

Annual Reports

"Public Health: A Story of Progress and Needs in Tennessee" is subtitled "an investment in disease prevention and health for everyone." It is intended as a current report to the citizen of the state. With only 2.7 cents of each tax dollar devoted to public health, the report says, Help! Mr. Citizen, a little bigger slice please!

"What we have done" and "what we need to do" are all indicated in photographs, charts, and brief text. The report is well designed to give the man in the street a real picture of what he gets for his 2.7 cents.

The report is practically anonymous. No names of state board or staff are listed, no address, no headquarters city. Such excess of modesty is unusual.

"On Our Way, 1955" is the first biennial report of the National League for Nursing. It is so good that an executive of another national agency wistfully asked, "When will we have a brochure in report form that matches this?" In its 24 pages there are text, photographs, drawings, an organization chart, a financial statement, and a double spread of photographs of some 26 of the league's leaders. It is attractive in format and printing and the text is suffused with the poetic concepts of a dedicated profession. Anna Fillmore is the general director, 2 Park Ave., New York 16, N. Y.

Books and Reports

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

The Prevention and Control of Disordered Behavior in San Mateo County, California—By the Project Staff of Community Research Associates. New York, N. Y.: Community Research Associates, Inc. (124 East 40th St.), 1954. 122 pp.

This is a six months' report of a five-year study of the community-wide characteristics of the problem of prevention and control of disordered behavior. The study is being financed by the Grant Foundation and the Rosenberg Foundation.

In the San Mateo study the purpose is twofold: "To extend knowledge about the community-wide characteristics of the major social disorders now dealt with by our modern community health, welfare, and adjustment services; and, second, to devise workable methods for better integrating these services into a positive program for prevention and control." This study is focused on the overt disordered behavior about which the community has to take action.

For one month 72 local, state, and regional health and welfare agencies completed schedules on the cases under their care. The study staff appraised directly the organization, administration, and quality of service of each agency, realizing the importance of the total community resources to an attack on this problem. The final step will be to synthesize the study with the schedules. In San Mateo there is a consolidated Department of Health and Welfare which has promoted the study; however, the services still operate separately with a minimum of integrated practice.

The report includes an interpretation of the extent of the problem and its costs in this county, the resources available, and methods of prevention and control, including leadership and the need for a new unit called the Family Mental Health Center in which the following can be carried out: identification of the problems; screening and classification; a thorough diagnosis of the total family situation; treatment formulation; case assignment and case management. This center will not be a new direct service unit but will provide diagnostic services, advice, and direction for the community's services. The staff will consist of psychiatrist, psychologist, and social caseworkers; if physical problems loom large, a medical internist will be added; and if therapeutic values of recreation or group work are needed, a recreation specialist; certain mechanical tools and procedures will be carried out, such as a cumulative roster of all families involved in disordered behavior and a family register.

The facts from the one-month's study showed that almost half of all maladjusted families and nearly a third of those with disordered behavior also had problems of ill health, dependency, or both. Therefore, a program of prevention and control will require the resources of health, welfare, and social work.

The report contains, also, an interesting section on the health and welfare services of the county with an appraisal of these programs. It shows that nearly three-fourths of the families served by these services are the same families.

This preliminary report will be of interest to all public health workers be-

cause of the points it raises and the methods it suggests to meet the community's needs. ELIZABETH P. RICE

The Prevention and Control of Indigent Disability in Washington County, Maryland—Reporting facts from a six-month study. Financed by the Grant Foundation, New York, N. Y.: Community Research Associates, Inc. (124 East 40th St.), 1954. 78 pp.

Community Research Associates has undertaken a five-year program of research and experimental projects in a number of communities in the country. The purpose of this program is twofold: to extend knowledge about the community-wide characteristics of the major social disorders now dealt with by our modern community health, welfare, and adjustment services; and to devise methods for better integrating these services into a positive program for prevention and control.

The "Hagerstown Project" in Washington County, Md., which this report describes, is aimed at the prevention and control of indigent disability through rehabilitation "realistically scaled and focused to meet community-wide needs." The report summarizes facts collected in a six-month study of Washington County, appraises county-wide services and resources which may be applied to the problem of the dependent disabled, and outlines a three-year experimental program aimed at its prevention and reduction. This project, like others undertaken by Community Research Associates, is based on full cooperation and participation from local agencies and citizen groups. This is a sound approach encouraging, as it does, the continuation of the program when the three-year project period is completed.

The report proposes establishing a Family Health Center under the direction of a full-time physician with two immediate associates, a chief medical social worker and a supervisory public health nurse. The Family Health Center will use all health and welfare resources in the community, but its staff is to be the core team responsible for basic processes of identification of the indigent disabled, screening and classification, treatment formulation, and case management. It is proposed that the active treatment load consist of about 250 or 300 high priority cases from the following groups: families with children in which the father or mother is disabled, families where the disabled person can be moved to a high status of occupational activity or full productive employment, and families where need for institutional care of the disabled person can be eliminated or avoided.

The objectives of this project are indeed praiseworthy. It is hoped that it will produce, as is intended, effective rehabilitation services, including the kind of individualized, highly imaginative vocational counseling and placement service which so many dependent disabled persons are now unable to receive. The official vocational rehabilitation program throughout the country has been limited legally as well as by staff and funds, and it is important, therefore, in a project of this kind, that the service be available to all the disabled, even those who may never be fully self-supporting. Some public welfare agencies, although not many, have developed well rounded programs aimed at rehabilitation to the highest feasible level of self-care or employment, and have provided these services for the persons who are not eligible for official vocational rehabilitation services. The Hagerstown Project should help to point up clearly how many of the indigent disabled need this kind of help.

The report has one omission, in the reviewer's opinion. There are detailed in it many steps to be taken in the treatment plans. We are not told, however,

when or whether the patient is to be consulted with respect to his desires and objectives. No rehabilitation plan can be successful if it overlooks the patient's own wishes and motivations.

Public health and public welfare workers throughout the country are watching and will continue to watch these experimental programs in the hope that methods and principles of preventing, controlling, and treating the problems of dependency will be a result.

PEARL BIERMAN

Culture and Human Fertility—By Frank Lorimer, et al. United Nations Educational, Scientific, and Cultural Organization. New York: Columbia University Press (2960 Broadway), 1955. 514 pp. Price, $4.50.

Lorimer reviews for this discussion historical, anthropologic, sociologic and demographic studies among peoples of various cultures on all five continents. Major emphasis is on nonindustrial groups, in keeping with the general questions which inspired Lorimer's investigation: how do specific cultural conditions affect fertility in primitive and agrarian societies and how may these conditions affect future fertility trends? Complete reports of four fertility studies, three among African groups and the last relating to Brazil, occupy about half the book. These reports contribute substantially to Professor Lorimer's background data and are themselves fascinating.

A complex of social, cultural, biologic, medical, economic, and religious factors conjointly determine, by human reaction to them, the level of fertility in a particular locale at a given time. Since these factors are independent and yet interrelated, each or several may have an influence on fertility contrary to that of one or more of the others. Upon the melange of findings in the studies reviewed, Professor Lorimer has based a series of hypotheses which lead him to a summary statement of the social elements affecting, in either direction, the level of human fertility in nonindustrial societies. Obviously, interpretation of the relative weight of the determinant influences must be subjective; there will, therefore, be disagreement with some of the author's hypotheses. If such disagreement encourages future investigations to establish definitive conclusions, a major purpose of the author will be satisfied.

This is not a book for the dilletante in human relations, but for the serious student of demography it provides a wealth of provocative ideas.

CARL L. ERHARDT

Dentistry in Public Health—By Walter J. Pelton and Jacob M. Wisan (2nd ed.). Philadelphia, Pa.: Saunders (West Washington Square), 1955. 282 pp. Price, $6.50.

The publication of the second edition of this book, which is completely revised and rewritten, should be of interest to members of the dental profession as well as health workers in many different fields. The 10 chapters deal with the question of what is public health, surveys and evaluation of dental programs, elements of statistical methods, needs and resources, prevention and control of dental caries and other dental diseases, administrative principles and the practice of dental public health, as well as dental health education and the payment for dental services.

Such authorities as Drs. John Fulton, John W. Knutson, and Albert L. Russell have contributed some of the chapters. The terminology and style used is such as to make the book suitable for dental and dental hygiene students as a text, as well as a source of useful information to all of the disciplines interested in dentistry in public health.

The chapter which deals with statistical methods is understandable and usable as a guide for the presentation of

dental facts in an acceptable manner. The chapter on the prevention and control of dental caries, which contains a table of the fluoride content in the various foodstuffs, should be of interest to all, especially those interested in the promotion of water fluoridation. It is extremely hard to single out any one chapter and state that it exceeds another.

Knowledge in the field of dentistry in public health has made great advances in the six years since the first edition was published. The first edition is most useful for the resource material which it contains, while the second edition has the very latest information in the field of dental public health written in a more understandable manner.

This volume is well organized and is highly recommended as a book which should be included in public health as well as individual libraries and read by those interested in the improvement of the dental health of the people.

CARL L. SEBELIUS

Should the Patient Know the Truth? A Response of Physicians, Nurses, Clergymen and Lawyers—Edited by Samuel Standard and Helmuth Nathan. New York: Springer Publishing Company (44 E. 23rd St.), 1955. 160 pp. Price, $3.00, hard cover; $2.00 soft cover.

This volume includes 23 short essays by physicians, nurses, clergymen, and lawyers on the problem of what patients should be told, primarily about approaching death. There are wide differences of opinion expressed covering the spectrum of those who would answer unconditionally "Yes," to those who would follow a pattern of telling the patient as little as possible.

Among the responses the reviewer was most moved by the chapter "The Magnificence of Understanding" by Ilse S. Wolff, R.N., mental health nursing consultant in the Connecticut State Department of Health. There is deep insight in this essay. The writer points out that the temptation is great to answer patients' questions in a definite personal vein: "Anything which has to do so intimately with the universal human condition cannot fail to touch off responses tinged heavily with one's own emotions and deeds. . . . We may rationalize that the patient is unable to take it, that the shock would cause him to give up prematurely or to spend the time left to him in a constant depression. By reasoning and projecting in this way, we confuse identities. While reacting in self-protection by every means at our disposal, by diversion, evasion, denial, we may easily leave the patient in a virtual isolation, an aloneness in times of greatest need. . . . A differentiating line needs to be drawn between what I decide for myself and how I respond to the patient who definitely is not I. . . . In this light, the question, 'Should the patient know the truth?' changes to the challenge, 'Am I ready and willing to be with the patient on his last road, willing to accept his feelings, different as they might be from mine, willing to respect equally his wish to be told or to be spared?' "

The book deserves to be widely read.

REGINALD M. ATWATER

Delinquent Boys—The Culture of the Gang—By Albert K. Cohen. Glencoe, Ill.: Free Press, 1955. 202 pp. Price, $3.50.

This book presents a well reasoned sociologic explanation for the delinquent and asocial behavior characteristic of the great number of neighborhood gangs that are currently so prevalent in all of our urban centers. The author is an assistant professor of sociology at Indiana University; has a Ph.D. from Harvard University; and has had experience working with juvenile delinquents at the Indiana Boys' School. He makes his point very well and it is regrettable that in the exposition of his main theme,

which is a general theory of subcultures to explain the subculture of the gang, he uses the technical jargon of the sociologist and psychologist to such an extent that it is only with difficulty and diligent perseverance that the average lay person or professional person of some other discipline can wade through it. Nevertheless, it is worth the perseverance and one emerges with the feeling that the author has verbalized some common sense concepts that the reader has felt all along to be true but has not quite crystallized in his own mind.

In effect, and somewhat oversimplified, Dr. Cohen says that the culture of the middle class "white collar" worker and that of the lower or laboring class have definite differences. When the teen-age male children of both these classes mingle in school and in the community they are all judged by the same standards, those of the middle class. Under these standards it is more difficult for the lower class children to attain recognition and as a result they lose status in the group and develop a feeling of inferiority and loss of self-respect. Therefore they develop a subculture of their own where behavior is judged by different standards—standards that are "traditionally symbolic of untrammeled masculinity, which are renounced by middle-class culture because incompatible with its ends, but which are not without a certain aura of glamor and romance. For that matter, they (the untrammeled masculine behavior of physical violence, sexual exploits, etc.) find their way into the respectable culture as well, but only in disciplined and attenuated forms, as in organized sports, in fantasy, and in make-believe games, or vicariously as in movies, television and comic books." Thus, the gang members regain respect and status in the eyes of their associates.

A brief, lucid, almost entertaining explanation of why female delinquency so rarely results in similar gang activities is included. This depicts the average girl as toeing the thin but rewarding line between sexual desirability and sexual accessability.

An outstanding and it is felt very promising feature is the proposed sound and thoroughly controlled but expensive and time-consuming epidemiologic approach to finding solutions and methods of treatment and prevention of the problem of this delinquency. This approach if properly applied should result in considerable benefit even if the author's theory is incorrect. EDWARD PRESS

Textbook of Healthful Living—By Harold S. Diehl (5th ed.). New York: McGraw-Hill (330 W. 42nd St.), 1955. 802 pp. Price, $6.00.

There appeared in 1935 a new "Textbook of Healthful Living" written by Harold S. Diehl, M.D., of the University of Minnesota. This book, intended primarily as a college text, has been revised five times. The most recent edition has just been released.

This volume is unique in that it combines text with references to health films and film strips that are available from the McGraw-Hill Film Department. Each chapter is followed by discussion suggestions and reading references.

The wealth of statistical source data and historical notes should make this book a valuable reference for all professional public health workers. The text treats of many important problems of personal health and relates these problems to those of community health.

It would be difficult for the reviewer to select the outstanding chapter in this book as each is excellent. The one on mental health particularly attracted his attention, however, because of the extraordinary way the authors have presented narratives that tell a mental hygiene story in persuasive fashion.

A few features which seem undesirable may be readily explained by the fact that the book has undergone several

revisions. For example, in several instances the word "recent" is used with reference to events that happened in the early 1930's and 1940's. Then, too, the book is top heavy with references to studies made in that period, with too little mention of more recent studies of the same types. Statistics on milk-borne communicable diseases from 1908–1927 are given to point up the importance of this mode of spread. It seems, however, that similar data for the years from 1927 on should also be given, since the change in trend due to extensive pasteurization of milk is essential to a thorough understanding of this problem. It would be helpful also to have included in the section dealing with rheumatic fever the statement publicized in 1953 by the Committee on Rheumatic Fever and Bacterial Endocarditis of the American Heart Association.

These few minor criticisms should not be construed to mean that the reviewer does not consider this textbook one of the very best in the field. In his opinion, it may be recommended highly to all public health workers and to those interested in an easily read and very complete text on health. The nation-wide prestige of those who collaborated with Dr. Diehl adds to the authoritativeness of this work.

JAMES J. QUINLIVAN

Let's Eat Right to Keep Fit—By Adelle Davis. New York: Harcourt, Brace (383 Madison Ave.), 1954. 322 pp. Price, $3.00.

Advances occurring through nutrition research have brought important new knowledge and understanding of the relationships between foods and health. Unfortunately, interpretation of these findings and motivation of the public to diets which will assure a fuller measure of health have been inadequate, or poorly accomplished. Therefore, opportunities have been created and too well utilized by food faddists and propagandists who continually influence large groups of our population to consumption of diets which may not meet the needs of health and in addition call for unwarranted expenditures for food.

The author of this book had an enviable opportunity to make an important contribution, since she records as basic purposes of her effort the reporting of nutrition facts, making these understandable, and stimulating their application in diet practices. Those with but little information in this important area will readily recognize that she has failed totally in meeting these objectives. However, there is great risk that this book will be read and accepted by the guileless. In it descriptions of fundamental observations relating to nutrition are interwoven with countless theories, personal observations, misconceptions, and irresponsible statements. There is endless discussion of the author's excursions into therapy, utilizing nutritional supplements to treat conditions such as warts, eczema, gray hair, chorea and epilepsy.

This book must be condemned as one replete with misinformation and the falsely placed enthusiasms of an author, whom the reader may suspect either of being totally lacking in critical acumen or of possessing motives which are not forthrightly stated. There is no room for this book in the libraries of professional health workers. It is of the utmost importance, however, that cognizance be taken of the fact that still another book has been added to the growing list which presents food fads and cults rather than soundly established nutrition information and practice. ROBERT E. SHANK

Your Health Today—By William W. Bauer. New York: Harper (49 East 33 St.), 1955. 514 pp. Price, $5.00.

The author, editor, and publishers have closely cooperated to make this volume an interesting and instructive college textbook. Its title appropriately

covers the contents. It is primarily addressed to the individual college student in language well understood on the campus today. It answers many of his, and her, perplexing personal problems. Health is considered in its original meaning as a wholeness or fullness of life. Expressed in the author's words, "Health is a feeling well in body, mind and spirit, with a sense of reserve power." In its scientific and cultural aspects this volume is brought up to date and maintains well balanced consideration for controversial issues.

Each chapter opens with a frank statement of what may be expected to follow and then sets up a number of true and false statements under the caption "Do You Believe?" The photographic illustrations throughout are artistic and well arranged to supplement the text. The cartoons and line drawings are well done, a number of them with enough humor to carry over the more serious parts of the book. Relatively little space is devoted to formal presentation of anatomy, physiology, and pathology. Their essential elements are set forth in simple line drawings with enough explanation to guide the student in adapting his daily life to function normally. The concluding chapters "About Doctors," "Life Goes On," and "Community Living" will give the student an outlook on what to expect after college days. An appendix with safety check lists put out by the National Safety Council in 1952 and a well arranged index conclude this excellent textbook for college students. RICHARD A. BOLT

Books Received

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

ADAPTIVE HUMAN FERTILITY. Paul S. Henshaw. New York: McGraw-Hill, 1955. 322 pp. Price, $5.50.

AMERICA'S NEEDS AND RESOURCES: A NEW SURVEY. J. Frederic Dewhurst and Associates. New York: Twentieth Century Fund, 1955. 1148 pp. Price, $10.00 cloth.

ANNOTATED BIBLIOGRAPHY OF VITAMIN E 1952–1954. Vol. III. New York: National Vitamin Foundation, 1955. 182 pp. Price, $3.00.

BONE AND BONES. FUNDAMENTALS OF BONE BIOLOGY. Joseph P. Weinmann and Harry Sicker (2nd ed.). St. Louis, Mo.: Mosby, 1955. 508 pp. Price, $13.75.

CANCER THROUGH THE AGES: THE EVOLUTION OF HOPE. Brancelia Butler. Fairfax, Va.: Virginia Press, 1955. 147 pp. Price, $1.00.

CARDIOLIPIN ANTIGENS. Mary C. Pangborn, et al. (rev. ed.). WHO Monograph Series No. 6. New York: Columbia University Press, 1955. 52 pp. Price, $1.25.

COMMUNICABLE DISEASES. Franklin H. Top and collaborators (3rd ed.). St. Louis, Mo.: Mosby, 1955. 1208 pp. Price, $18.50.

CURRENT RESEARCH IN HUMAN FERTILITY. Papers Presented at the 1954 Annual Conference of the Milbank Memorial Fund. New York: Milbank Memorial Fund, 1955. 162 pp. Price, $1.00.

DENTAL ASSISTANT, THE. Edited by John C. Brauer. New York: McGraw-Hill, Blakiston Division, 1955. 384 pp. Price, $7.00.

DICTIONARY OF TERMS IN PHARMACOGNOSY. George M. Hocking. Springfield, Ill.: Thomas, 1955. 284 pp. Price, $9.75.

EDUCATORS GUIDE TO FREE FILMS, 1955 (15th ed.). Mary F. Horkheimer and John W. Diffor. Randolph, Wis.: Educators Progress Service, 1955. 591 pp. Price, $6.00.

EDUCATORS GUIDE TO FREE SLIDEFILMS (7th Annual ed.). Mary F. Horkheimer and John W. Diffor. Randolph, Wis.: Educators Progress Service, 1955. 185 pp. Price, $4.00.

EVERYTHING AND THE KITCHEN SINK. How the first century of industry created our first century of good living. New York: Farrar, Straus & Cudahy, 1955. 160 pp. Price, $4.00.

FUNCTIONS OF THE MEDICAL OFFICER OF HEALTH. The Society of Medical Officers of Health. London: Tavistock House South, Tavistock Square, 1955. 46 pp. Price, 1/6.

HEALTHFUL LIVING. Harold S. Diehl (4th rev. ed.). New York: McGraw-Hill, 1955. 529 pp. Price, $6.00.

HOUSING, HEALTH, AND SOCIAL BREAKDOWN ON OAHU: A STUDY OF CENSUS TRACT STATISTICS. Robert C. Schmitt. Honolulu, Hawaii: Honolulu Redevelopment Agency, City and County of Honolulu, 1954. Price, $1.50.

INDUCED ABORTION ON PSYCHIATRIC GROUNDS. A Follow-Up Study of 479 Women (English translation). Martin Ekblad. Stockholm, Sweden: Pskiatriska Kliniken, Karolinska Institutet, University of Stockholm, 1955. 238 pp.

INTRODUCTION TO PARASITOLOGY. Asa C. Chandler (9th ed.). New York: Wiley, 1955. 799 pp. Price, $8.50.

LABORATORY IDENTIFICATION OF PATHOGENIC FUNGI SIMPLIFIED. Elizabeth L. Hazen and Frank Curtis Reed. Springfield, Ill.: Thomas, 1955. 108 pp. Price, $5.50.

LECTURES ON THE SCIENTIFIC BASIS OF MEDICINE. Vol. III, 1953–1954. British Postgraduate Medical Federation. New York: John de Graff, 1955. 398 pp. Price, $6.00.

MANAGEMENT OF ACUTE POLIOMYELITIS, THE. C. P. Stott and M. Fischer-Williams. Baltimore, Md.: Williams & Wilkins, 1955. 99 pp. Price, $3.00.

METHODS FOR DETERMINING LEAD IN AIR AND IN BIOLOCICAL MATERIALS. Prepared by the Committee on Chemical Procedures of the Occupational Health Section, APHA. New York: American Public Health Association, 1955. 69 pp. Price, $1.25.

MUNICIPAL YEAR BOOK 1955, THE. Clarence E. Ridley and Orin F. Nolting, Editors. Chicago, Ill.: International City Managers' Association. 588 pp. Price, $10.00.

NATURAL HISTORY OF TSETSE FLIES, THE. London School of Hygiene and Tropical Medicine Memoir No. 10. Patrick A. Buxton. London, England: H. K. Lewis & Co., 1955. 816 pp. Price, L4.4s.Od.Net.

NUTRITION FOR PRACTICAL NURSES. Phyllis S. Howe. Philadelphia, Pa.: Saunders, 1955. 174 pp. Price, $2.50.

NUTRITION PRACTICES: A GUIDE FOR PUBLIC HEALTH ADMINISTRATORS. American Public Health Association. New York: APHA, 1955. 80 pp. Price, $1.00.

NUTRITION SOURCEBOOK. Oliver E. Byrd. Stanford, Calif.: Stanford University Press, 1955. 370 pp. Price, $7.50.

PATHOGENESIS OF POLIOMYELITIS, THE. Harold K. Faber. Springfield, Ill.: Thomas, 1955. 157 pp. Price, $5.00.

POPULATION, BIRTHS, NOTIFIABLE DISEASES, AND DEATHS, ASSEMBLED FOR NEW YORK CITY, NEW YORK 1866–1938 FROM OFFICIAL RECORDS. Supplement 1936–1953. Haven Emerson and Harries E. Hughes. New York: DeLamar Institute of Public Health, College of Physicians and Surgeons, Columbia University, 1955. Not for sale.

PRACTICE OF DYNAMIC PSYCHIATRY, THE. Jules H. Masserman. Philadelphia, Pa.: Saunders, 1955. 790 pp. Price, $12.00.

PROBLEMS OF HOUSING OF SOCIAL INTEREST. Washington, D. C.: Pan American Union, 1954. 232 pp. Price, $1.00.

PROCEEDINGS OF THE FOURTH ANNUAL CONFERENCE ON CRIPPLED CHILDREN. Roanoke, Va., March 2–3, 1955. Richmond, Va.: Virginia Council on Health and Medical Care, 1955. 80 pp.

SCHOOL HEALTH SOURCEBOOK. Oliver E. Byrd. Stanford, Calif.: Stanford University Press, 1955. 381 pp. Price, $7.50.

SIGNS OF THE HEALTH TIMES. Seen at the 1955 National Health Forum on Forecasting America's Health. New York: National Health Council, 1955. 64 pp. Price, $1.00.

SOCIETY AND MEDICINE—Number XVII. Iago Galdston, Editor. New York: International Universities Press, 1955. 131 pp. Price, $3.00.

STORY OF MEDICINE, THE. Kenneth Walker. New York: Oxford University Press, 1955. 338 pp. Price, $6.00.

STUDYING YOUR COMMUNITY. Roland L. Warren. New York: Russell Sage Foundation, 1955. 385 pp. Price, $3.00.

VETERANS ADMINISTRATION TECHNICAL BULLETINS. Series 10, Vol. VII, 1954. Washington, D. C.: Department of Medicine and Surgery, Veterans Administration Technical Bulletin, 1954.

VIRUS AND RICKETTSIAL DISEASES. S. P. Bedson, A. W. Downie, et al. (2nd ed.). Baltimore, Md.: Williams & Wilkins, 1955. 407 pp. Price, $6.75.

VOCATIONAL REHABILITATION OF THE TUBERCULOUS. Sol L. Warren. New York: National Tuberculosis Asosciation, 1955. 193 pp. Price, $2.50.

WORKING TOGETHER FOR HEALTHIER CHILDREN. Albany, N. Y.: New York State Department of Health, 1954. 135 pp.

A Selected Public Health Bibliography with Annotations

Entertainment Department—Though this dissertation can be dragged into the realm of public hygiene only by brute force, it is highly commended to all who relish good conversation. Come to think of it, there may be something in the paper of practical usefulness for clinicians, nurses, social workers, sanitarians among others who give direct service as part of the day's work. So maybe you had better look the paper up even if conversational brilliance leaves you cold.

ASHER, R. Talk, Tact, and Treatment. Lancet 268, 6867:759 (Apr. 9), 1955.

It Just Ain't So! — Presented here in brief and readily "findable" form are telling answers to the calmer diatribes against water fluoridation—those that may seem to an innocent public to have some substance. The really wild assertions are just ignored.

BLACK, A. P. Facts in Refutation of Claims by Opponents of Fluoridation. J. Am. Dietet. A. 50, 6:655 (June), 1955.

Patients Have Emotions—If nursing homes are to continue to play the important role in the care of chronic patients that they have assumed, then they must provide better social, recreational, and rehabilitative programs than they have as yet undertaken. This is the conclusion reached through a New York State survey.

BRIGHTMAN, I. J., et al. Proprietary Nursing and Convalescent Homes. New York State J. Med. 55, 12:1713 (June 15), 1955.

Sanitarians Tops in Direct Services—This is another reference to those Yale studies of what all sorts of health people do in the day's eight hours of work—as revealed by a review of personnel activity in five county health departments. Which category of health worker spends most time giving direct service? Which in administrative activity? Which in community relations? In finding answers to these questions some interesting comparisons are recorded.

COHART, E. M., and WILLARD, W. R. Functional Distribution of Working Time in Five County Health Departments. Pub. Health Rep. 70, 7:713 (July), 1955.

Industrial Hygienists Will Note—Values are set for maximum average atmospheric concentration of contaminants for an eight-hour work day. They are based upon the best available information. They are not intended for the control of community air pollution.

COLEMAN, A. L., et al. Threshold Limit Values for 1955. Arch. Indust. Health 11, 6:521 (June), 1955.

What Good Are Baby Stations?—More searching discussion (from over the water) of the present and prospective worths of the child health center. Even though many governing factors there differ from ours here, the arguments have considerable validity in our situation, too.

DALZELL-WARD, A. J. The Function of the Child Welfare Center. M. Officer 93, 22:303 (June 3), 1955.

Stops Guesswork with Nonparalytic Polio — This six-months' study "by the section of preventive

medicine, Yale School of Medicine, . . . illustrates the value of virus isolation and serologic (antibody) tests in helping the physician to make an early diagnosis of poliomyelitis infection."

GODENNE, M. O., and RIORDAN, J. F. Tissue Culture Diagnosis of Poliomyelitis and Aseptic Meningitis. J.A.M.A. 158, 9:707 (July 2), 1955.

Dry and Liquid Fluorides—Relative usefulness and availability for water treatment purposes of a half-dozen fluorine compounds are reviewed here. This seems to be a matter about which health people generally—in addition to water works engineers—should keep themselves informed. The one perfect compound doesn't exist.

GRAHAM, B. W. Fluoridation Chemicals Used for Water Treatment. Water Works Engin. 108, 5:413 (May), 1955.

Please Don't Miss This!—"Whether you are 20 or 65," says the magazine's introduction to this brilliant and unusual paper, the "chances are good that you may soon be offered a new job. This seasoned advice comes from a man who has witnessed the acceptance or rejection of many an offered post."

GREGG, A. When to Change Jobs—and Why. Harpers 211, 1263:71 (Aug.), 1955.

Group Characteristics—Two telling examples of the way in which knowing the anatomy of the community had helped in health program planning set the stage for a stimulating discussion of the role that epidemiology may play at the administrative level.

Mattison, B. F. Epidemiologic Techniques and Data in Planning Public Health Programs. Pub. Health Rep. 70, 7:625 (July), 1955.

Post-Tonsillectomy Health—Attack rates of common respiratory diseases were no lower among children who had had tonsils removed than those still equipped with these filters—in good or bad condition. There were no noticeable differences in the kinds of infections between the two groups. These findings confirm some earlier conclusions though they are at variance with others—as one would expect!

MCCORKLE, L. P., et al. A Study of Illness in a Group of Cleveland Families. New England J. Med. 252, 25 (June 23), 1955.

The Stuff We Breathe—The meat of twenty papers offered at the First International Congress on Air Pollution furnishes a substantial meal for public health workers who are at all concerned with this difficult administrative area. The collection covers much too much ground to be epitomized here.

NELSON, N., et al. Air Pollution Control. Pub. Health Rep. 70, 7:633 (July), 1955.

Paying Guests—Because they had so many visitors from all over the world, and because the demonstration of their service has become a top factor in their public relations activities, the two visiting nurse associations of New York City and Brooklyn created a joint committee to develop a program to make the most of the educational experience they offer to their visitors—who are permitted to pay a fee. If visitors have become a problem in your agency, too, you will want to know about this plan.

NOTTER, L. E. Visitors Are Important People. Nursing Outlook 3, 7:372 (July), 1955.

Reporting Progress—Due chiefly to the fact that they are now qualified to carry on a generalized inspection service the staff members of the reorganized Division of Air Pollution and Environmental Sanitation (Philadelphia Health Department) are reported to be

doing an ever-improving job of making the city a fit place to live in.

PURDOM, P. W. Philadelphia—Two Years of Progress. Modern San. 7, 7:21 (July), 1955.

When People Work Together—The dietitians, in annual meeting assembled, decided to take a look at their interpersonal relations—what group isn't these days! In three addresses on the qualities of leadership and followship, they were given an insight into their all-too-human behavior. This same insight may prove equally valuable to others of us who are not dietitians.

WISHIK, S. M. Together We Work (and two related papers). J. Am. Dietet. A. 31, 5:464 (May), 1955.

Language Niceties — Prospective contributors to this medium of enlightenment are urgently invited to look up this (reprinted) editorial about scientific solecisms and more ordinary crimes and misdemeanors against the King's English. It is pointed out that it is an "editor's business to interpose himself as a filter between the author and the reader so that the product may be delivered clear even though not sparkling," but it helps if the original product is not too muddy.

WOCLUM, W. H. Please! J. Am. M. Women's A. 10, 6:200 (June), 1955.

Discouraging Finding—An experimental nutrition clinic treated 168 obese patients under conditions that seemed most likely to be successful. About a quarter of the group achieved reasonable reductions in weight. You will be interested in the factors that seemed to produce this rather discouraging showing.

YOUNG, C. M., et al. What Can Be Done for the Obese Patient? Am. Pract. 6, 5:685 (May), 1955.

If additional information is desired regarding the articles listed in the Bibliography, please communicate directly with the publications in which they appeared; the addresses are furnished for your convenience.

Am. Pract. (American Practitioner), 227–231 S. Sixth St., Philadelphia 5, Pa.
Arch. Indust. Health (Archives of Industrial Health), 535 N. Dearborn St., Chicago 10, Ill.
Harpers Magazine, 49 E. 33 St., New York, N. Y.
J. Am. Dietet. A. (Journal of the American Dietetic Association), 620 N. Michigan Ave., Chicago, Ill.
J.A.M.A. (Journal of the American Medical Association), 535 N. Dearborn St., Chicago 10, Ill.
J. Am. M. Women's A. (Journal of the American Medical Women's Association), 1790 Broadway, New York 19, N. Y.
Lancet (The Lancet), 7 Adam St., Adelphi, London, W.C. 2, England.
M. Officer (Medical Officer), Whitefriars House, 72–78 Fleet St., London, E.C. 4, England.
Modern San. (Modern Sanitation), 855 Avenue of the Americas, New York 1, N. Y.
New York State J. Med. (New York State Journal of Medicine), 292 Madison Ave., New York 17, N. Y.
New England J. Med. (New England Journal of Medicine), Massachusetts Medical Society, 8 The Fenway, Boston 15, Mass.
Nursing Outlook, American Journal of Nursing Company, 2 Park Ave., New York 16, N. Y.
Pub. Health Rep. (Public Health Reports), Gov. Ptg. Office, Washington, D. C.
Water Works Engin. (Water Works Engineering), 24 West Maple Street, Chicago 10, Ill.

Preliminary Program of the Scientific Sessions

83rd Annual Meeting

American Public Health Association

and

Meetings of Related Organizations

Kansas City, Missouri

November 14–18, 1955

The Municipal Auditorium is headquarters for the meeting and all scientific sessions will be held there, unless otherwise noted.

Attention is called to a new pattern of scientific sessions. In the past related organizations have met on Monday and the sessions of the APHA began on Tuesday. This year the 83rd Annual Meeting officially opens on Monday morning at 10:30 with an Association Symposium for all delegates entitled "Where Are We Going in Public Health?" APHA Section meetings will occupy the afternoon and will continue through Friday morning. The second part of the Association Symposium will be presented on Friday afternoon. Related organizations will meet on Monday evening, Wednesday afternoon and evening, and on Thursday morning. Some will meet on Sunday as indicated below.

The Registration Desk will be on the mezzanine of the Municipal Auditorium, Wyandotte Street side, and will open for the registration of delegates at 9:00 A.M. on Monday, November 14, at which time final programs will be distributed. The registration fee is $5.00.

Advance Meetings—Sunday, November 13

SUNDAY, 9:00–5:00 P.M., and 7:00 P.M.

ASSOCIATION OF TEACHERS OF PREVENTIVE MEDICINE
(Formerly, Conference of Professors of Preventive Medicine)

9:00–5:00 P.M.

University of Kansas Medical Center

TEACHING INSTITUTE ON OCCUPATION AND HEALTH

Presiding: DUNCAN W. CLARK, M.D., President.

Medicine and Industry—Some Expectations of Each. WILLIAM P. SHEPARD, M.D.

Occupational Hygiene, A Vehicle for Teaching Preventive Medicine. RODNEY R. BEARD, M.D.

APPLICATIONS OF PREVENTIVE MEDICINE IN INDUSTRIAL PRACTICE. RELATIONS OF OCCUPATION AND HEALTH

Round Tables

The following subjects are planned for discussion at separate tables to which distinguished industrial physicians have been invited as resource consultants:

Employability	Disease Prevention
Periodic Examination	Accident Prevention
Health Promotion	Disability Evaluation
Mental Health	Rehabilitation
Productivity and Absenteeism	Medical Care

To be discussed are certain of the clinical, epidemiological, and administrative experiences of medicine in industry, particularly those areas and problems that are common to all of medical practice. The ultimate purpose is the adaptation and use of such specific experiences in the instruction of medical students in preventive medicine.

Summary of Round Tables.

Business Meeting and Election of Officers.

7:00 P.M.

Dinner and Evening Session—Trianon Room, Muehlebach Hotel

The Future of Preventive Medicine in America. W. G. SMILLIE, M.D.

Tickets for the dinner may be obtained by writing to Dr. John J. Phair, University of Cincinnati College of Medicine, Cincinnati 19, Ohio, enclosing a check for $4.00. Tickets should be obtained in advance.

SUNDAY, 9:00 A.M., 2:00 P.M., and 7:00 P.M.

SOCIETY OF PUBLIC HEALTH EDUCATORS

9:00 A.M.

Rooms 211, 215, 217, 219, and 227, President Hotel

Work Sessions.

2:00 P.M.

Aztec Room, President Hotel

Presiding: S. S. LIFSON, President.

General Session.

Group Reports.

Preparation of recommended statements by the membership as a whole.

7:00 P.M.

Banquet, Walnut Room, President Hotel

SUNDAY, 9:45 A.M., and 2:30 P.M.

CONFERENCE FOR HEALTH COUNCIL WORK

First and Second Sessions—Room 207, President Hotel

Presiding: FRIEDA BRACKEBUSH, Chairman.

Workshop Sessions.

SUNDAY, 9:45 A.M., 2:30 P.M., and 8:00 P.M.

CONFERENCE OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORY DIRECTORS

9:45 A.M.

First Session—Grand Ballroom, Muehlebach Hotel

Presiding: WILLIAM LEVIN, Dr.P.H.

(Cont.)

SUNDAY, 9:45 A.M., 2:30 P.M., and 8:00 P.M.

CONFERENCE OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORY DIRECTORS, (Cont.)

PRESENT PROBLEMS IN A PUBLIC HEALTH LABORATORY

Recent Advances in Serology of Leptospirosis. JOSEPH H. SCHUBERT AND DONALD S. MARTIN, M.D.

Practical Flocculation Test for the Serological Diagnosis of Trichinosis by State Laboratories. ELVIO H. SADUM AND LOIS NORMAN.

Setting Up the TPI Laboratory. ALBERT DICKMAN, Ph.D.

Problems Arising in Complement-Fixation Tests for Virus Diseases. ALAN BERNSTEIN.

Problems in Relation to Licensing of Laboratories and Laboratory Workers. C. A. PERRY, Sc.D.

2:30 P.M.

Second Session—Grand Ballroom, Muehlebach Hotel

Presiding: WILLIAM LEVIN, Dr.P.H.

FUTURE OF PUBLIC HEALTH LABORATORIES

From a Health Officer's Viewpoint. THOMAS F. SELLERS, M.D.

From the Communicable Disease Center's Viewpoint. THEODORE J. BAUER, M.D.

From an Educator's Viewpoint. EDWARD G. MCGAVRAN, M.D.

From a Laboratory Director's Viewpoint. WILLIAM LEVIN, Dr.P.H.

8:00 P.M.

Third Session—Junior Ballroom, Muehlebach Hotel

Business Meeting.

SUNDAY, 2:00 P.M. AND 7:00 P.M.

CONFERENCE OF STATE DIRECTORS OF PUBLIC HEALTH TRAINING

First and Second Sessions—Room 205, President Hotel

SUNDAY, 4:00 P.M.

GOVERNING COUNCIL
AMERICAN PUBLIC HEALTH ASSOCIATION

First Meeting—Followed by Dinner and Evening Session, Colonial Ballroom, Muehlebach Hotel

SUNDAY, 6:30 P.M.

CONFERENCE OF STATE AND PROVINCIAL HEALTH AUTHORITIES OF NORTH AMERICA

Dinner and Evening Session—Music Room, Muehlebach Hotel

Presiding: MORLEY R. ELLIOTT, M.D., President.

Federal and Local Government—Cooperators or Competitors? FRANKLIN D. MURPHY, M.D.

Presentation of Honorary Life Certificates.

MONDAY, 10:30 A.M.

ASSOCIATION SYMPOSIUM

WHERE ARE WE GOING IN PUBLIC HEALTH?

Basic Issues and Goals

Presented in Two Parts

Part 1, Monday, 10:30 A.M., Music Hall, Municipal Auditorium

Part 2, Friday, 2:30 P.M., Arena, Municipal Auditorium

Presiding: HENRY F. VAUGHAN, Dr.P.H.

The Program Committee and the Executive Board have directed that the 83rd Annual Meeting should center around the subject of these symposia. Much depends on the answer to the problem of where we are going in public health. Decisions of government, decisions of universities, decisions of public planning groups, and decisions of the foundations can be made only in the light of our best knowledge of what lies ahead.

In 1850 there was published by Lemuel Shattuck a remarkable volume which blueprinted the future of public health for the next hundred years. In planning these symposia the Program Committee hopes that there may grow out of this central focus for the 83rd meeting a blueprint which will guide developments for the next century as Shattuck's monumental work guided it in the past.

Participants in these symposia will be drawn from the fields of government, industry, labor, education, and public administration, as well as from the technical fields represented by conventional public health.

MONDAY, 2:30 P.M.

DENTAL HEALTH SECTION

First Session—Room 503, Municipal Auditorium

Presiding: H. SHIRLEY DWYER, D.D.S., Chairman.

THE APPLICATION OF PUBLIC HEALTH METHODS TO DENTAL PROGRAMS IN NEED OF DEVELOPMENT

Orthodontic Care. DAVID B. AST, D.D.S.

Discussant: ROBERT A. DOWNS, D.D.S.

Periodontal Diseases. J. M. WISAN, D.D.S., AND D. WALTER COHEN, D.D.S.

Discussant: LLOYD F. RICHARDS, D.D.S.

The Effective Utilization of Public Health Hygienists. NORMAN F. GERRIE, D.D.S.

Discussant: DAVID F. STRIFFLER, D.D.S.

Summarizer: KENNETH A. EASLICK, D.D.S.

ENGINEERING AND SANITATION SECTION

First Session—Room 400, Municipal Auditorium

Presiding: WALTER S. MANGOLD, Chairman.

Comparative Evaluation of Methods of Reporting Coliform Density. EDWARD S. HOPKINS.

Methods for Reporting Sanitation Inspections.

I.B.M. Method. MORRIS SHIFFMAN, D.V.M., AND PAUL W. PURDOM.

Marginal Punch Card Method. VINSON R. OVIATT.

Discussant: EDWARD L. STOCKTON.

EPIDEMIOLOGY SECTION

First Session—Room 500, Municipal Auditorium

Presiding: JOHN E. GORDON, M.D., Chairman.

Incidence of Neoplasia Following Irradiation to the Thymus Gland in Infancy. C. LENORE SIMPSON, M.D.

(Cont.)

MONDAY, 2:30 P.M.

EPIDEMIOLOGY SECTION, (Cont.)

An Evaluation of the Precipitin, Complement-Fixation, and Flocculation Tests in the Diagnosis of Trichinosis. HAROLD T. FUERST, M.D.; MORRIS GREENBERG, M.D.; DANIEL WIDELOCK, Ph.D.; AND A. E. THOMSON, M.D.

Survivorship of Reported Cancer Cases in Northern New York State. ARTHUR S. KRAUS; MORTON L. LEVIN, M.D.; RITA E. CASHMAN; AND PAUL R. GERHARDT, M.D.

Human Infections with Canine and Feline Ascaris Larvae. PAUL BEAVER, Ph.D.

Section Business.

FOOD AND NUTRITION, HEALTH OFFICERS, MATERNAL AND CHILD HEALTH, PUBLIC HEALTH EDUCATION, AND PUBLIC HEALTH NURSING SECTIONS, AND THE MENTAL HEALTH GROUP

Joint Session—Arena, Municipal Auditorium

POPULATION MOBILITY AND CHANGE—THEIR IMPACT ON PUBLIC HEALTH

The Public Health Significance of Population Mobility and Change. JOHN J. HANLON, M.D.

The Dimensions of Population Mobility and Change. ROBERT D. GROVE, Ph.D.

The Impact of Mobility and Change on Family Life. ROBERT G. FOSTER, Ph.D.

An Approach to Improving Health Services for Migrant Agricultural Workers. RUTH B. HOWARD, M.D., AND GEORGIA B. PERKINS, M.D.

LABORATORY SECTION

First Session—Room 600, Municipal Auditorium

Presiding: S. EDWARD SULKIN, Ph.D., Chairman.

Certain New in vivo and in vitro Observations on M. tuberculosis and Their Practical Application in the Public Health Laboratory. LENORE R. PEIZER AND DANIEL WIDELOCK, Ph.D.

(Cont.)

MONDAY, 2:30 P.M.

LABORATORY SECTION, (Cont.)

Study of Families in the Control of Rheumatic Fever and a Preventive Program. TOM R. HAMILTON, M.D., ANTONI M. DIEHL, M.D., AND JOHN S. MAY.

DEVELOPMENT AND USE OF SPECIFIC TREPONEMAL ANTIGENS IN SYPHILIS SEROLOGY

Symposium

Moderator: SIDNEY OLANSKY, M.D.

Relation Between Kahn and Treponemal Immobilization Reactions in Hospital Practice. ELIZABETH B. MCDERMOTT; LENOIR B. STEWART; REUBEN L. KAHN, D.Sc.; ALBERT H. WHEELER, Dr.P.H.; AND ELLA M. BRANDON.

The Use of TPI and TPIA Tests in the Serologic Diagnosis of Syphilis. CHARLES M. CARPENTER, M.D.; RUTH A. BOAK, M.D.; AND JAMES N. MILLER.

The TPI as a Daily Routine Laboratory Procedure. AD HARRIS.

The TP Complement-Fixation Test. HAROLD J. MAGNUSON, M.D., AND JOSEPH PORTNOY, Ph.D.

An Evaluation of Various Serodiagnostic Procedures Employing Specific Treponemal Antigens. CHARLES R. REIN, M.D., AND LOUISE C. KELCEC.

Section Business.

MEDICAL CARE SECTION

First Session—Little Theatre, Municipal Auditorium

RURAL MEDICAL CARE

Presiding: FREDERICK D. MOTT, M.D.

The Role of Organized Medicine in the Development of Rural Health Plans. B. M. OVERHOLT, M.D.

Teamwork Brings Better Medical Care to Rural Virginia. EDGAR J. FISHER, JR.

Prepaid Medical Care and Changing Needs in Saskatchewan. MILTON I. ROEMER, M.D.

MONDAY, 2:30 P.M.

PUBLIC HEALTH NURSING AND SCHOOL HEALTH SECTIONS, THE AMERICAN SCHOOL HEALTH ASSOCIATION, THE CONFERENCE FOR HEALTH COUNCIL WORK, AND THE NATIONAL HEALTH COUNCIL

Joint Session—Music Hall, Municipal Auditorium

Presiding: HUGH R. LEAVELL, M.D.

HOW CAN WE GET OUR MANPOWER?

Panel Discussion with Questions from Audience

Participants:

LEROY E. BURNEY, M.D.
ROSCOE P. KANDLE, M.D.
CHARLES ODELL.
PERRY J. SANDELL.
MARION W. SHEAHAN, R.N.

Commentary. (To be announced)

(This joint session will be followed at 4:30 P.M. by a special showing in the Music Hall of the motion picture "Community Health in Action.")

STATISTICS SECTION AND THE AMERICAN ASSOCIATION OF REGISTRATION EXECUTIVES

Joint Session—Room 502, Municipal Auditorium

Presiding: CARL L. ERHARDT.

Section Business. (Nominations for Section Officers.)

Differential Mortality by Cause of Death and Sex, with Special Reference to the Degree of Urbanization in New York State. J. V. DEPORTE, Ph.D., AND ELIZABETH PARKHURST.

Hospital Data as a Source of Information on Chronic Diseases. MARTA FRAENKEL, M.D.

Variation in Certain Measures of Morbidity and Medical Care with Education. PAUL M. DENSEN, D.Sc.

Section Business and Election of Officers.

MONDAY, 5:30 P.M.

RECEPTION TO THE PRESIDENT OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

5:30–6:45 P.M., Grand Ballroom, Muehlebach Hotel, Informal

All registered delegates and exhibitors are invited.

MONDAY, 6:30 P.M.

AMERICAN ASSOCIATION OF PUBLIC HEALTH PHYSICIANS

Dinner, Preceded by Social Hour, Continental Room, Continental Hotel

ASSOCIATION OF LABOR-MANAGEMENT MEDICAL CARE PROGRAM ADMINISTRATORS

Dinner Session—Room B, Muehlebach Hotel

Meeting of Executive Committee.

CONFERENCE ON MEDICAL CARE TEACHING

Dinner and Evening Session—Room 217, President Hotel

CONFERENCE OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORY DIRECTORS

Dinner and Evening Session—Colonial Ballroom, Muehlebach Hotel

Report of the Committee on the Kimble Methodology Research Award.

Presentation of the Award. HOWARD L. BODILY, Ph.D.

ENGINEERING AND SANITATION SECTION, THE CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS, THE CONFERENCE OF STATE SANITARY ENGINEERS, AND THE NATIONAL ASSOCIATION OF SANITARIANS

Annual Engineers' Stag Dinner, Roof Garden, Continental Hotel

MONDAY, 6:30 P.M.

MILITARY GOVERNMENT - CIVIL AFFAIRS PUBLIC HEALTH SOCIETY

Dinner and Evening Session—Room 227, President Hotel

Military Government—Civil Affairs Public Health in Action. COLONEL JAMES P. PAPPAS, MC, USA.

MONDAY, 8:00 P.M.

AMERICAN SCHOOL HEALTH ASSOCIATION

First Session—Little Theatre, Municipal Auditorium

Presiding: H. F. KILANDER, Ph.D., President.

Report of the President.

Report of the Secretary. A. O. DEWEESE, M.D.

Election of Council Members.

Committee Report—Tuberculosis Certification. J. A. MYERS, M.D.

Readability of Health Textbooks. HOWARD S. HOYMAN, Ed.D.

Challenge to the Professions. DELBERT OBERTEUFFER, Ph.D.

ASSOCIATION OF BUSINESS MANAGEMENT IN PUBLIC HEALTH

First Session—Junior Ballroom, Muehlebach Hotel

Business Meeting.

ASSOCIATION OF STATE MATERNAL AND CHILD HEALTH AND CRIPPLED CHILDREN'S DIRECTORS

First Session—Room 225, President Hotel

Meeting of Executive Council. All members are cordially invited.

MONDAY, 8:00 P.M.

MENTAL HEALTH GROUP
(Committee for a Mental Health Section)

First Session—Main Ballroom, President Hotel

Presiding: JOHN D. PORTERFIELD, M.D.

Mental Health Problems in Older People. W. G. SMILLIE, M.D., AND THOMAS A. C. RENNIE, M.D.

The Drift Hypothesis and Socioeconomic Differential in Schizophrenia. REMA LAPOUSE, M.D.; MARY A. MONK, Ph.D.; AND MILTON TERRIS, M.D.

Maternal and Fetal Factors in the Occurrence and Degree of Mental Deficiency. ABRAHAM M. LILIENFELD, M.D., AND BENJAMIN PASAMANICK, M.D.

TUESDAY, 8:00 A.M.

NATIONAL ADVISORY COUNCIL, CLEVELAND HEALTH MUSEUM

Breakfast Session—Room 225, President Hotel

TUESDAY, 9:45 A.M.

DENTAL HEALTH SECTION

Second Session—Room 502, Municipal Auditorium

Presiding: H. SHIRLEY DWYER, D.D.S., Chairman.

Section Business.

Committee Reports.

Discussions of Committee Studies and Activities.

Section Business and Election of Officers.

ENGINEERING AND SANITATION AND SCHOOL HEALTH SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Music Hall, Municipal Auditorium

Presiding: H. F. KILANDER, Ph.D.

(Cont.)

TUESDAY, 9:45 A.M.

ENGINEERING AND SANITATION AND SCHOOL HEALTH SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION, (Cont.)

ENVIRONMENTAL STANDARDS FOR SCHOOL HEALTH

The Need for Total Environmental Support of an Effective School Health Program. MARIE A. HINRICKS, M.D.

School Health Ventilation. CONSTANTIN P. YAGLOU.

Proper School Lighting. (Speaker to be announced.)

Sanitation of Food Handling in School Lunch Rooms. JOHN H. MCCUTCHEN.

EPIDEMIOLOGY AND LABORATORY SECTIONS

Joint Session—Little Theatre, Municipal Auditorium

Presiding: WILLIAM MCD. HAMMON, M.D.

Arthropod-Borne Encephalitides in Japan and Southeast Asia. MAJOR EDWARD L. BUESCHER, MC, USA.

Infection with APC Viruses in Human Volunteers. ROBERT J. HUEBNER, M.D., AND THOMAS G. WARD, M.D.

Intestinal Viral Flora of Healthy Children Demonstrable by Monkey Kidney Tissue Culture. M. RAMOS-ALVAREZ, M.D., AND ALBERT B. SABIN, M.D.

A Continuing Study of the Acquisition of Natural Immunity to Poliomyelitis in Representative Louisiana Households. JOHN P. FOX, M.D., PH.D.; HENRY M. GELFAND, M.D.; DOROTHY R. LEBLANC, R.N.; AND DONALD P. CONWELL, M.D.

The Surveillance of Poliomyelitis in 1955 in the United States. ALEXANDER D. LANGMUIR, M.D.; NEAL NATHANSON, M.D.; EARL L. DIAMOND; AND OTHERS.

FOOD AND NUTRITION, MATERNAL AND CHILD HEALTH, AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Arena, Municipal Auditorium

INTERNATIONAL ASPECTS OF MATERNAL AND CHILD HEALTH

Moderator: MYRON E. WEGMAN, M.D.

Comparison of Major Maternal and Child Health Problems in the World at Different Levels of Technical Development. LOUIS J. VERHOESTRAETE, M.D.

(Cont.)

TUESDAY, 9:45 A.M.

FOOD AND NUTRITION, MATERNAL AND CHILD HEALTH, AND PUBLIC HEALTH NURSING SECTIONS, (Cont.)

WHO-UNICEF Collaboration in Maternal and Child Health Programs. MARTHA M. ELIOT, M.D.

Global Aspects of Midwifery. NICHOLSON J. EASTMAN, M.D.

Experiences in the Far East. JESSIE M. BIERMAN, M.D.

Problems of Child Nutrition in Central America and the Work of INCAP. WILLIAM H. SEBRELL, JR., M.D.

Experiences in the Middle East. (Speaker to be announced.)

HEALTH OFFICERS SECTION

First Session—Room 600, Municipal Auditorium

Presiding: J. W. R. NORTON, M.D., Chairman.

A Profile of the Public Health Worker. IRA V. HISCOCK, SC.D., AND EDWARD M. COHART, M.D.

Radiological Health or Radiation Protection? MIRIAM SACHS, M.D.

The Health Officer's Job in the Control of Viral Diseases. JOHN E. GORDON, M.D.

Section Business and Election of Officers.

MEDICAL CARE SECTION

Second Session—Room 500, Municipal Auditorium

Presiding: HENRY C. DANIELS.

Recent Trends in the Distribution of Physicians. MILTON TERRIS, M.D., AND MARY A. MONK, PH.D.

A Study of the Quality of Medical Care in the Health Insurance Plan of Greater New York. EDWIN F. DAILY, M.D.

Segregation and Discrimination in Medical Care. PAUL B. CORNELY, M.D.

Section Business.

Section Council Meeting.

TUESDAY, 9:45 A.M.

PUBLIC HEALTH EDUCATION SECTION

First Session—Room 400, Municipal Auditorium

Presiding: BERYL J. ROBERTS, Ph.D.

WHAT DOES THE CHANGING PICTURE IN PUBLIC HEALTH MEAN TO PUBLIC HEALTH EDUCATION?

Programs and Practices. MAYHEW DERRYBERRY, Ph.D.

Personnel Recruitment and Training. HUGH R. LEAVELL, M.D., AND LOUISA ESKRIDGE HAAS.

Discussion.

TUESDAY, 10:30 A.M.

STATISTICS SECTION

First Session—Room 503, Municipal Auditorium

Presiding: CARL L. ERHARDT, Chairman.

W. THURBER FALES LECTURE

Dr. Fales, Chief Statistician and Philosopher-Guide, Baltimore Health Department, 1935–1953. HUNTINGTON WILLIAMS, M.D., AND MATTHEW TABACK, Sc.D.

TUESDAY, 12:30 P.M.

ASSOCIATION OF SCHOOLS OF PUBLIC HEALTH

Luncheon Session—Room 221, President Hotel

DELTA OMEGA

Luncheon Session—Junior Ballroom, Muehlebach Hotel

TUESDAY, 12:30 P.M.

DENTAL HEALTH SECTION

Luncheon Session—Room 225, President Hotel

Presiding: H. SHIRLEY DWYER, D.D.S., Chairman.

Luncheon Speaker. W. CLARKE WESCOE, M.D.

ENGINEERING AND SANITATION SECTION

Luncheon Session—Parlor E, Continental Hotel

Presiding: WALTER S. MANGOLD, Chairman.

Section Business.

FOOD AND NUTRITION SECTION

Luncheon Session—Junior Ballroom, President Hotel

Presiding: HARRY W. VON LOESECKE, Chairman.

Section Business and Election of Officers.

(Speaker to be announced.)

HEALTH OFFICERS SECTION

Luncheon Session—Colonial Ballroom, Muehlebach Hotel

Presiding: J. W. R. NORTON, M.D., Chairman.

HOW CAN WE IMPROVE OUR TEACHING OF PUBLIC HEALTH?

A discussion participation luncheon similar to the 1954 luncheon. No paper will be read, no speeches will be given. Copies of the first title paper by co-authors, HERMAN E. HILLEBOE, M.D., and FRANKLYN B. AMOS, M.D., and the second by HENRY F. VAUGHAN, DR.P.H., and VLADO A. GETTING, M.D., will be distributed for advance reading to those making luncheon reservations. The subject will be discussed at the separate tables during the luncheon and from the floor following the luncheon. The authors will be present.

TUESDAY, 12:30 P.M.

PUBLIC HEALTH NURSING SECTION

Luncheon Session—Main Ballroom, President Hotel

Presiding: MARION I. MURPHY, R.N., Chairman.

The Public Health Nurse in the Boarding Home Program. ROBERTA E. FOOTE, R.N., AND LUCILLE E. TRACY, R.N.

SCHOOL HEALTH SECTION

Luncheon Session—English Room, Continental Hotel

Presiding: CHARLES C. WILSON, M.D., Chairman.

Food for Thought—School Health Around the World. JENNELLE V. MOORHEAD.

STATISTICS SECTION

Luncheon Session—Oak Room, Continental Hotel

TUESDAY, 2:30 P.M.

ENGINEERING AND SANITATION AND LABORATORY SECTIONS

Joint Session—Music Hall, Municipal Auditorium

Presiding: MALCOLM E. MERRILL, M.D.

Personalities Responsible for the Development of Standard Methods over the Past 50 Years. HARRY A. FABER.

The Value of Standard Laboratory Technics in the Administration of Problems of Public Health and Environmental Sanitation. ABEL WOLMAN, Dr.Eng.

Research and Its Contribution to the Development of Standard Methods over the Past 50 Years. JOSEPH A. MCCARTHY.

Standard Methods—Past, Present, and Future. F. WELLINGTON GILCREAS.

TUESDAY, 2:30 P.M.

DENTAL HEALTH, EPIDEMIOLOGY, AND STATISTICS SECTIONS

Joint Session—Little Theatre, Municipal Auditorium

Presiding: CARL L. ERHARDT.

FIELD STUDIES IN CHRONIC DISEASE

Longitudinal Technics in Study of Oral Disease. A. L. RUSSELL, D.D.S.

A Comparison of Five Methods of Estimating the Prevalence of Chronic Disease in a Community—The Hunterdon County Study. RAY E. TRUSSELL, M.D.; JACK ELINSON, Ph.D.; AND MORTON L. LEVIN, M.D.

Some Approaches to Measurement in the Field of Arthritis. SIDNEY COBB, M.D.; JOSEPH ROSENBAUM; AND DONOVAN J. THOMPSON, Ph.D.

Discussant: Felix E. Moore.

FOOD AND NUTRITION SECTION

First Session—Room 503, Municipal Auditorium

Presiding: HARRY W. VON LOESECKE, Chairman.

PLACE OF NEW PROCESSED FOOD IN THE DIETARY

Foods for the Upper Age Group. (Speaker to be announced.)

New Processed Foods for the Convenience of the Consumer. (Speaker to be announced.)

Recent Advances in the Dehydration of Foods and Their Place in the Dietary. (Speaker to be announced.)

MATERNAL AND CHILD HEALTH SECTION

First Session—Room 500, Municipal Auditorium

2:30–3:10 P.M.

The Role of Rehabilitation in a Program for Handicapped Children. HELEN M. WALLACE, M.D.; JEROME S. TOBIS, M.D.; ROBERT S. SIFFERT, M.D.; MARGARET A. LOSTY, R.N.; AND CAROLINE H. ELLEDGE.

Child Health Supervision in Calvert County, Md.—A Detailed Study of All Infants Born in 1953. ALICE B. TOBLER-LENHOFF, M.D.

3:15–5:00 P.M.

Section Business.

TUESDAY, 2:30 P.M.

MEDICAL CARE SECTION AND THE AMERICAN ASSOCIATION OF HOSPITAL CONSULTANTS

Joint Session—Room 400, Municipal Auditorium

Presiding: PAUL A. LEMBCKE, M.D.

ISSUES IN HOSPITAL CARE

Provision of Hospital Care by Local Government. BASIL MACLEAN, M.D.

Controlling the Quality of Medical Services. PAUL R. HAWLEY, M.D.

Full-Time Chiefs of Clinical Services. JOHN C. LEONARD, M.D.

OCCUPATIONAL HEALTH AND PUBLIC HEALTH EDUCATION SECTIONS

Joint Session—Arena, Municipal Auditorium

HEALTH EDUCATION FOR INDUSTRIAL WORKERS

Moderator: MARY F. ARNOLD.

PUBLIC HEALTH NURSING SECTION

First Session—Room 600, Municipal Auditorium

Presiding: MARION I. MURPHY, R.N., Chairman.

Report of the Secretary. HELEN L. FISK, R.N.

Committee Reports and Discussion.

Section Business.

Report of Nominating Committee and Election of Officers.

SCHOOL HEALTH SECTION

First Session—Room 502, Municipal Auditorium

Presiding: CHARLES C. WILSON, M.D., Chairman.

Section Business and Election of Officers.

(Cont.)

TUESDAY, 2:30 P.M.

SCHOOL HEALTH SECTION, (Cont.)

Report of Section Secretary. ELENA M. SLIEPCEVICH, D.P.E.

Report of Chairman of Membership Committee. WARREN H. SOUTHWORTH, Dr.P.H.

Report of Chairman of Editorial Committee. MARY B. RAPPAPORT, R.N.

Report of Chairman of Nominations Committee. ELIZABETH S. AVERY, Ph.D.

WORKSHOPS IN HEALTH EDUCATION

Panel Discussion

Moderator: ELIZABETH S. AVERY, Ph.D.

Teacher Preparation in Health Education. CARL L. ANDERSON, Dr.P.H.

Cooperative Planning for Health Education. JEFF FARRIS.

Present-Day Technics in Health Education Workshops. EDWARD B. JOHNS, Ed.D.

Ten Years of Community-School Health Education Workshops. ARTHUR L. HARNETT, JR., Ed.D.

Audience Participation.

TUESDAY, 5:30 P.M.

FOOD AND NUTRITION SECTION

Social Hour, 5:30–7:00 P.M., Tearoom, Muehlebach Hotel

UNVERSITY OF MICHIGAN ALUMNI

Social Hour, 5:30–7:00 P.M., Junior Ballroom, Muehlebach Hotel

PUBLIC HEALTH EDUCATION SECTION

Social Hour, 5:30–7:00 P.M., Aztec Room, President Hotel

TUESDAY, 8:30 P.M.

FIRST GENERAL SESSION

Grand Ballroom, Muehlebach Hotel

Presiding: HERMAN E. HILLEBOE, M.D., President, American Public Health Association.

Addresses of Welcome:

L. P. COOKINGHAM, City Manager, Kansas City, Mo.
HUGH L. DWYER, M.D., Director of Public Health, Kansas City, Mo.

Some Public Health Aspects of Medical Education. FRANKLIN D. MURPHY, M.D.

Presidential Address. HERMAN E. HILLEBOE, M.D.

Presentation of Sedgwick Memorial Medal.

WEDNESDAY, 8:00 A.M.

THE JOHNS HOPKINS UNIVERSITY ALUMNI

Breakfast Session—Trianon Room, Muehlebach Hotel

MASSACHUSETTS INSTITUTE OF TECHNOLOGY ALUMNI

Breakfast Session—Room 225, President Hotel

UNIVERSITY OF MICHIGAN ALUMNI

Breakfast Session—Colonial Ballroom, Muehlebach Hotel

GRADUATES' ORGANIZATION, SCHOOL OF HYGIENE, UNIVERSITY OF TORONTO

Breakfast Session—Music Room, Muehlebach Hotel

WEDNESDAY, 9:45 A.M.

CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

First Session—Room 503, Municipal Auditorium

WEDNESDAY, 9:45 A.M.

DENTAL HEALTH, MATERNAL AND CHILD HEALTH, PUBLIC HEALTH NURSING, AND SCHOOL HEALTH SECTIONS, THE AMERICAN SCHOOL HEALTH ASSOCIATION, AND THE CONFERENCE FOR HEALTH COUNCIL WORK

Joint Session—Arena, Municipal Auditorium

Presiding: CHARLES C. WILSON, M.D.

Handicapped Children in Georgia: A Study of Prevalence, Disability, Needs and Resources. SAMUEL M. WISHIK, M.D.

A REGULAR MONTHLY MEETING OF THE ARKANSAS JOINT SCHOOL HEALTH COORDINATING COMMITTEE

From the Arkansas State Board of Health:
E. J. EASLEY, M.D.
JOHAN W. ELIOT, M.D.
H. SHIRLEY DWYER, D.D.S.
LOUISE JAMES, R.N.
BARBARA MCDONALD.
FRANCES C. ROTHERT, M.D.

From the Arkansas State Department of Education:
ALMA KEYS.
RUTH POWELL.
A. G. THOMPSON.
J. A. TRICE, Ed.D.
J. H. WASSON.
DEAN H. WHITESIDE.

Representing the Arkansas Medical Society:
EUGENE H. CRAWLEY, M.D.

Representing the Arkansas State Dental Society:
MAURICE FRIEDMAN, D.D.S.

Audience Discussion:
FRANCES C. ROTHERT, M.D., Moderator.

WEDNESDAY, 9:45 A.M.

FOOD AND NUTRITION AND LABORATORY SECTIONS

Joint Session—Room 502, Municipal Auditorium

Presiding: HARRY W. VON LOESECKE.

METHODOLOGY RESEARCH

Some Aspects of the Microbiology of Frozen Concentrated Orange Juice. E. R. WOLFORD.

The Limitations of Escherichia coli as an Indicator Organism in Frozen Foods. REESE H. VAUGHN, Ph.D.

The Detection of Antibiotics in Milk. JOSEPHINE CERNY AND ROBERT L. MORRIS.

Correlation of Numbers and Types of Enterococci in Well Waters with Numbers of Coliform Bacteria and with Sanitary Surveys. CASSANDRA RITTER; IVAN F. SHULL; AND ROBERT L. QUINLEY.

HEALTH OFFICERS AND STATISTICS SECTIONS, AND THE ASSOCIATION OF BUSINESS MANAGEMENT IN PUBLIC HEALTH

Joint Session—Music Hall, Municipal Auditorium

Presiding: J. W. R. NORTON, M.D.

RECORDING AND EVALUATION OF PUBLIC HEALTH PROGRAMS

Some Steps in the Process of Program Planning. MURRAY R. NATHAN.

A Method of Recording Public Health Programs. DANIEL BERGSMA, M.D., AND LAWRENCE M. FRIEDRICH, C.E.

Service Statistics—An Essential Dimension in Program Design. EVELYN FLOOK.

Be Sure the Juice Is Worth the Squeeze. CLEMENS W. GAINES.

WEDNESDAY, 9:45 A.M.

LABORATORY AND OCCUPATIONAL HEALTH SECTIONS

Joint Session—Little Theatre, Municipal Auditorium

Presiding: S. Edward Sulkin, Ph.D., and Carl A. Nau, M.D.

METHODOLOGY RESEARCH

Advances in the Methodology of Examinations for Air Contaminants. Dohrman H. Byers.

Quantitative Determination of Fluoride in Phosphate-Bearing Waters. Barbara G. Lang, Omer C. Sieverding, and Earle K. Bozman.

Detection of Soluble Antigen in the Sera of Patients with Carcinoma by Use of the Schultz-Dale Test. Jack G. Makari, M.D.

An Economical Test Tube Method for the Determination of the Toxigenicity of C. diphtheriae. Richard V. Walker and Margaret Beattie.

Technics Leading to Increased Production Yield of Avianized Smallpox Vaccine. Philip J. Forsyth and E. B. M. Cook.

Laboratory Services in the Diagnosis of Leptospirosis. Nell Hirschberg, Ph.D.; Lynn G. Maddry, Ph.D.; and Martin P. Hines, D.V.M.

MEDICAL CARE SECTION

Third Session—Room 400, Municipal Auditorium

Presiding: Milton Terris, M.D.

WHAT PEOPLE THINK OF THEIR MEDICAL CARE

Metropolis—What City People Think of Their Medical Services. Earl Lomon Koos, Ph.D.

Windsor—How Subscribers React to Comprehensive Physician's Insurance. Benjamin J. Darsky; S. J. Axelrod, M.D.; and Carl E. Ortmeyer, Ph.D.

St. Louis—What Union Members Think of Their Group Practice Plan. Nathan M. Simon and Sanford E. Rabushka, M.D.

WEDNESDAY, 9:45 A.M.

PUBLIC HEALTH EDUCATION SECTION

Second Session—Room 500, Municipal Auditorium

Presiding: ANN W. HAYNES AND BEN D. KININGHAM, JR.

BUSINESS MEETING

Committee Reports: Chairmen and Co-Chairmen.

Assistance to Public Health Libraries. ALFRED E. KESSLER AND GRAYDON DORSCH.

Health Education in the Medical Care Area. ARTHUR KNEERIM, Chairman.

Health Education in Special Subject Areas. ALMA J. BAYNARD AND ROBERT C. MILLIGAN.

Identification of Common Principles. MABEL E. RUGEN, PH.D., Chairman.

Membership. GEORGE A. KENNY AND SARA C. STICE.

Newsletter. MILDRED M. IHRIG; SCOTT K. SIMONDS; AND EUGENE L. WITTENBORN, JR.

Nominating. BERNARDINE CERVINSKI, Chairman.

Orientation of New Members. MARIE F. GATELY AND JANE G. JONES.

Relationships with Public Health Education Sections in Branches and State Associations, and with Health Educators in Other Countries. MARGARET L. BLIZARD, Chairman.

Research and Evaluation. NORBERT REINSTEIN AND BETTY T. BOND.

Resolutions. DONALD A. DUKELOW, M.D., AND BAXTER K. RICHARDSON.

Revision of Manual of Operating Procedures. RUTH SUMNER, PH.D., Chairman.

Election of Officers.

Discussion of Reports and Recommendations for Action to Section Council.

Other Business.

WEDNESDAY, 9:45 A.M.

PUBLIC HEALTH NURSING SECTION

Second Session—Room 600, Municipal Auditorium

Presiding: MARION I. MURPHY, R.N., Chairman.

ROLE OF THE PUBLIC HEALTH NURSE IN MENTAL HEALTH

Panel Discussion

Moderator: IRA V. HISCOCK, Sc.D.

Participants:
ESTHER LUCILE BROWN, Sc.D.
STEPHEN FLECK, M.D.
ROSCOE P. KANDLE, M.D.
MARY B. KNEEDLER, R.N.

Discussion.

WEDNESDAY, 12:30 P.M.

ASSOCIATION OF LABOR-MANAGEMENT MEDICAL CARE PROGRAM ADMINISTRATORS

Luncheon and Afternoon Session—Junior Ballroom, Muehlebach Hotel

Presiding: MORRIS BRAND, M.D., President.

(Subject to be announced.) NELSON CRUIKSHANK.

General Meeting.

MATERNAL AND CHILD HEALTH SECTION

Luncheon Session—Tearoom, Muehlebach Hotel

MENTAL HEALTH GROUP
(Committee for a Mental Health Section)

Luncheon Session—Aztec Room, President Hotel

Presiding: REGINALD M. ATWATER, M.D.

Mental Health—The New Frontier. LEONARD A. SCHEELE, M.D.

WEDNESDAY, 12:30 P.M.

NATIONAL CITIZENS COMMITTEE FOR THE WORLD HEALTH ORGANIZATION

Luncheon and Third Annual Meeting—Grand Ballroom, Muehlebach Hotel

Presiding: THOMAS PARRAN, M.D., President.

Luncheon Speaker: (To be announced.)

Everyone invited

NATIONAL SANITATION FOUNDATION

Luncheon and Afternoon Session—Room 225, President Hotel

WEDNESDAY, 2:30 P.M.

AMERICAN ASSOCIATION OF PUBLIC HEALTH PHYSICIANS

First Session—Room 400, Municipal Auditorium

Presiding: E. R. KRUMBIEGEL, M.D., President.

AMERICA'S PUBLIC HEALTH PROGRAM—TODAY AND TOMORROW—PARTISAN POLITICAL VIEWPOINTS

Panel Discussion

House of Delegates Session and Election of Officers.

WEDNESDAY, 2:30 P.M.

AMERICAN SCHOOL HEALTH ASSOCIATION

Second Session—Rooms 503, 403, and 404, Municipal Auditorium

Room 503 **School Health Education Section.**

Presiding: BLANCHE BOBBITT, PH.D.

HEALTH EDUCATION

Panel Discussion

Student Panel from Kansas City Public Schools.

Reactor Panel:
BLANCHE BOBBITT, PH.D.
WESLEY P. CUSHMAN, ED.D.
EDWARD B. JOHNS, ED.D.
MABEL E. RUGEN, PH.D.

Room 403 **School Health Services Section.**

Presiding: DONALD A. DUKELOW, M.D.

SYMPOSIUM ON SCREENING

Measuring the Growth Characteristics of Children. HOWARD V. MEREDITH, PH.D.

Teacher Observation in the Classroom. MARJORIE L. CRAIG.

The Familiar Sounds Test and Other Technics for Screening Hearing. MARIAN P. DOWNS.

Multiphasic Screening in the School Health Service Program. DONALD A. DUKELOW, M.D.

Room 404 **School Health Nurses Section.**

Presiding: IRMA B. FRICKE.

RELATIONSHIPS IN THE TOTAL SCHOOL HEALTH PROGRAM

Panel Discussion

Moderator: FRED V. HEIN, PH.D.

Physician. GUY N. MAGNESS, M.D.

Nurse Serving the School. LYDA SMILEY, P.H.N.

Administrator. J. G. BRYAN.

Teacher. DOROTHEA MEYN.

WEDNESDAY, 2:30 P.M.

ASSOCIATION OF BUSINESS MANAGEMENT IN PUBLIC HEALTH

Second Session—Room 502, Municipal Auditorium

Have Administrative Personnel Become of Age in Public Health? HERMAN E. HILLEBOE, M.D.

How to Operate a Fleet of Automobiles in a State Department of Health for Less Than Three Cents per Mile. CLEMENS W. GAINES.

ASSOCIATION OF STATE AND TERRITORIAL PUBLIC HEALTH NUTRITION DIRECTORS

First Session—Room 311, Municipal Auditorium

Presiding: BERTLYN BOSLEY, PH.D., President.

Greetings. BERTLYN BOSLEY, PH.D.

Welcome to Missouri. JAMES R. AMOS, M.D., AND ELISABETH L. MAUGHS.

A Word from a Neighbor. HELEN GER OLSON.

Report of the Project Committee on Forms and Records.
JOHN H. BROWE, M.D., Chairman.
MARGARET DUNHAM.
HELEN HINMAN.

Discussion of Report.

Applications to Situations in Various States.

Organization of Workshop Groups.

CONFERENCE OF NURSE DIRECTORS

First Session—Room 402, Municipal Auditorium

CONFERENCE OF STATE AND TERRITORIAL DIRECTORS OF PUBLIC HEALTH EDUCATION

First Session—Room 204, Municipal Auditorium

Interim Business Session.

WEDNESDAY, 2:30 P.M.

ENGINEERING AND SANITATION SECTION AND THE CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Joint Session—Room 600, Municipal Auditorium

Presiding: GUY M. TATE, JR., AND WALTER S. MANGOLD.

The City of the Future—A Public Health Engineering Challenge. MORRIS M. COHN, Sc.D.

Public Health Implications of Radioactive Fall Out. HAROLD A. THOMAS, JR.

Ground Disposal of Radioactive Wastes. ROY J. MORTON, C.E.

The Smog Problem in California. FRANK M. STEAD AND AUGUST T. ROSSANO, JR., Sc.D.

Methods of Air Sampling. ELBERT C. TABOR.

GOVERNING COUNCIL AMERICAN PUBLIC HEALTH ASSOCIATION

Second Meeting—Trianon Room, Muehlebach Hotel

LABORATORY SECTION AND THE CONFERENCE OF PUBLIC HEALTH VETERINARIANS

Joint Session—Little Theatre, Municipal Auditorium

Presiding: BRIGADIER GENERAL WAYNE O. KESTER, USAF (VC).

Bat Rabies Investigations in Southwest United States. LT. COLONEL KENNETH F. BURNS, VC, USA.

Brucella melitensis Infection in Diagnostic Animals in Iowa. IRVING H. BORTS, M.D.

Treatment of Brucellosis in Humans. WESLEY SPINK, M.D.

SYMPOSIUM ON PSITTACOSIS

Moderator: KARL F. MEYER, M.D.

Epidemiological and Laboratory Findings on Cases of Psittacosis (Ornithosis) in Turkeys and Human Beings in New Jersey. OSCAR SUSSMAN, D.V.M.

Virus of the Lymphogranuloma venereum-Psittacosis Group Recovered from a Ground Squirrel. J. V. IRONS, Sc.D.

WEDNESDAY, 2:30 P.M.

MEDICAL CARE SECTION

Fourth Session—Room 500, Municipal Auditorium

Presiding: JOHN A. LEWIS, JR., M.D.

IS REHABILITATION OF PUBLIC HEALTH CONCERN?

Panel Discussion

Participants:

Public Health Officer. ALBERT L. CHAPMAN, M.D.

Social Worker. LILLIAN M. SNYDER.

Physician. MARTIN M. MUELLER, M.D.

Hospital Administrator. STERLING B. BRINKLEY, M.D.

Rehabilitation Center. MAURINE DOCKHORN.

Employment Service. DONALD C. ARNOLD, PH.D.

Public Health Nurse. MARJORIE W. SPAULDING.

Rehabilitation Counselor. JOHN HENLE.

Voluntary Health Agency Representative. CLAUDIA B. GALIHER.

Patient. MARIE B. MASSON.

NATIONAL CITIZENS COMMITTEE FOR THE WORLD HEALTH ORGANIZATION

First Session—Music Hall, Municipal Auditorium

WHERE ARE WE GOING IN WORLD HEALTH?

Symposium Presentation by Health Experts and Civic Leaders on:

1. The Nature of the Relationships Which Have Developed between the World Health Organization and Its Member Countries.
2. Principal Accomplishments Due to WHO Since the War.
3. New Objectives—Malaria Eradication; Tuberculosis, Yaws, Trachoma and Other Campaigns; Nutrition and Maternal and Child Health Goals.
4. Our Interest in the World Health Organization.

Everyone invited

WEDNESDAY, 2:30 P.M.

PUBLIC HEALTH CANCER ASSOCIATION

First Session—Arena, Municipal Auditorium

Presiding: WALTER E. BATCHELDER, M.D., President.

APPROACHES TO CANCER RESEARCH

The Problem of Cancer. E. V. COWDRY, M.D.

The Testing of Possible Carcinogens. HAROLD L. STEWART, M.D.

Realities and Hypotheses on Viral Infection as a Cause of Cancer. FRANCISCO DURAN-REYNALS, M.D.

Evaluation of the Manual for Cancer Programs of the American College of Surgeons. R. LEE CLARK, JR., M.D.

WEDNESDAY, 5:00 P.M.

UNIVERSITY OF NORTH CAROLINA ALUMNI

Social Hour at 5:30 P.M., Preceded by a Meeting at 5:00 P.M., Tearoom, Muehlebach Hotel

WEDNESDAY, 5:30 P.M.

CONFERENCE OF STATE AND TERRITORIAL DIRECTORS OF PUBLIC HEALTH EDUCATION

Social Hour, 5:30–7:00 P.M., Bretton's Restaurant and Copper Lounge (opposite the Muehlebach Hotel)

HARVARD PUBLIC HEALTH ALUMNI ASSOCIATION

Social Hour, Followed by Dinner at 6:30 P.M., Colonial Ballroom, Muehlebach Hotel

UNIVERSITY OF MINNESOTA

Social Hour, Followed by Dinner at 6:30 P.M., Oak Room, Continental Hotel

WEDNESDAY, 5:30 P.M.

NATIONAL SANITATION FOUNDATION

Social Hour, Followed by Dinner at 6:30 P.M., Room 225, President Hotel

WEDNESDAY, 6:30 P.M.

AMERICAN SCHOOL HEALTH ASSOCIATION

Dinner and Evening Session—Walnut Room, President Hotel

Presiding: H. F. KILANDER, PH.D., President.

Health in Schools. JOHN BRACKEN.

Presentation of the William A. Howe Award.

Response of Recipient.

Installation of Officers.

PUBLIC HEALTH CANCER ASSOCIATION

Dinner and Evening Session—Aztec Room, President Hotel

Business Meeting.

Award for 1955 for distinguished service in cancer control by the Public Health Cancer Association of America to Leonard A. Scheele, M.D.

WEDNESDAY, 8:00 P.M.

AMERICAN COLLEGE OF PREVENTIVE MEDICINE

First Session—Trianon Room, Muehlebach Hotel

ASSOCIATION OF STATE AND TERRITORIAL PUBLIC HEALTH NUTRITION DIRECTORS

Second Session—Room 207, President Hotel

Presiding: ALICE H. SMITH, President-Elect.

Public Health Nutrition—A Forward Look. MARJORIE M. HESELTINE.

WEDNESDAY, 8:00 P.M.

MEDICAL CARE SECTION AND THE ASSOCIATION OF LABOR-MANAGEMENT MEDICAL CARE PROGRAM ADMINISTRATORS

Joint Session—Junior Ballroom, President Hotel

Presiding: WILLIAM A. SAWYER, M.D.

QUALITY OF MEDICAL CARE IN HEALTH CENTERS

Quality of Medical Care in Health Centers. E. RICHARD WEINERMAN, M.D.

Discussants:
MICHAEL M. DAVIS, PH.D.
HENRY C. DANIELS.
JOHN O. MCNEEL, M.D.

THURSDAY, 8:00 A.M.

COMMISSIONED OFFICERS ASSOCIATION OF THE U. S. PUBLIC HEALTH SERVICE

Breakfast Session—Aztec Room, President Hotel

Open to all U. S. Public Health Service Officers.

GEORGE PEABODY COLLEGE FOR TEACHERS ALUMNAE

Breakfast Session—Music Room, Muehlebach Hotel

YALE UNIVERSITY ALUMNI

Breakfast Session—Trianon Room, Muehlebach Hotel

THURSDAY, 9:45 A.M.

AMERICAN COLLEGE OF PREVENTIVE MEDICINE

Second Session—Grand Ballroom, Muehlebach Hotel

THURSDAY, 9:45 A.M.

AMERICAN SCHOOL HEALTH ASSOCIATION

Third Session—Music Hall, Municipal Auditorium

Presiding: ISAAC P. BARRETT, M.D., President-Elect.

PROBLEMS AND PROGRESS IN SCHOOL HEALTH

Studies in School Dental Health Education. PERRY J. SANDELL.

Recent Advances in Communicable Disease Control. HOLLIS S. INGRAHAM, M.D.

Progress Against Chronic Disease in Children. THOMAS E. SHAFFER, M.D.

A New Approach to Nutrition Education. PATTRIC RUTH O'KEEFE, PH.D.

ASSOCIATION OF BUSINESS MANAGEMENT IN PUBLIC HEALTH

Third Session—Room 400, Municipal Auditorium

Executive Personnel Development. VIRGIL K. ROWLAND.

Oral Communications. JOHN M. ERICKSON.

ASSOCIATION OF RESERVE OFFICERS OF THE U. S. PUBLIC HEALTH SERVICE

First Session—Room 402, Municipal Auditorium

ASSOCIATION OF STATE AND TERRITORIAL PUBLIC HEALTH NUTRITION DIRECTORS

Third Session—Room 4, Muehlebach Hotel

Presiding: BERTLYN BOSLEY, PH.D., President.

Workshop Groups:

For States with One Nutrition Consultant.

For States with Two to Four Consultants.

For States with Five or More Consultants.

Others—by Request.

(Cont.)

THURSDAY, 9:45 A.M.

ASSOCIATION OF STATE AND TERRITORIAL PUBLIC HEALTH NUTRITION DIRECTORS, (Cont.)

Report of Workshop Summaries.

Business Meeting

Committee Reports.

Future Plans for Study.

CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Second Session—Room 503, Municipal Auditorium

CONFERENCE OF PUBLIC HEALTH VETERINARIANS

First Session—Room 404, Municipal Auditorium

Presiding: BRIGADIER GENERAL WAYNE O. KESTER, USAF (VC), President.

Second Zoonosis Report of WHO. JAMES H. STEELE, D.V.M.

Our Professional Heritage. A. H. QUINN, D.V.M.

Veterinary Military Public Health Problems in Europe. MAJOR ROBERT A. JUNI, USAF (VC).

Discussion of the New Poultry Ordinance. RAYMOND J. HELVIG, D.V.M., AND JOSEPH W. ATKINSON, D.V.M.

Business Meeting.

DENTAL HEALTH SECTION

Trip arranged by Local Arrangements Committee to visit Dental School and other places of interest.

THURSDAY, 9:45 A.M.

ENGINEERING AND SANITATION AND OCCUPATIONAL HEALTH SECTIONS

Joint Session—Room 500, Municipal Auditorium

Presiding: EARLE W. SUDDERTH AND CARL A. NAU, M.D.

SANITATION FOR INDUSTRIAL WORKERS

Industrial Sanitation and the Workers' Health. J. LLOYD BARRON, C.E.

Hazards Associated with Use of Insecticides, Rodenticides, and Pesticides in Industrial Sanitation Programs. WAYLAND J. HAYES, JR., M.D.

Hazards Resulting from Improper Use of Cleaners and Sanitizers in Industrial Sanitation. DONALD J. BIRMINGHAM, M.D.

Sanitation Problem Involved in Industrial Catering. T. E. SULLIVAN.

LABORATORY SECTION AND THE CONFERENCE OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORY DIRECTORS

Joint Session—Room 600, Municipal Auditorium

Presiding: S. EDWARD SULKIN, Ph.D.

WHERE IS THE PUBLIC HEALTH LABORATORY GOING?

In Microbiology. HOWARD L. BODILY, Ph.D.

In Sanitary Science. F. WELLINGTON GILCREAS.

In Virology. IRVING GORDON, M.D.

In Biochemistry. GERALD R. COOPER, M.D.

In Administration. EDMUND K. KLINE, Dr.P.H.

THURSDAY, 9:45 A.M.

MATERNAL AND CHILD HEALTH AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Arena, Municipal Auditorium

Presiding: MARION I. MURPHY, R.N., AND MARTHA L. CLIFFORD, M.D.

MENTAL HEALTH AND GROUP WORK

Public Health Nursing and Parent Education: A Pilot Project of Training for Parent-Group Leadership. ALINE B. AUERBACH.

Discussants:

ADELE HENDERSON, R.N.
SAMUEL M. WISHIK, M.D.

(Subject to be announced.) HENRY H. WORK, M.D., AND MARIE E. GOIK, R.N.

MEDICAL CARE SECTION

Fifth Session—Junior Ballroom, President Hotel

Presiding: HENRY C. DANIELS.

Implications of a Morbidity Survey for Medical Care. LESTER BRESLOW, M.D.

Statistical Data from Medical Care Programs: Their Use for the Coordination of Health Services. MURRAY S. ACKER, M.D.

Genetic and Epidemiological Contributions of a Prepaid Medical Care Program. LOUIS E. SCHAEFER, M.D.

MENTAL HEALTH GROUP
(Committee for a Mental Health Section)

Second Session—Room 403, Municipal Auditorium

Presiding: PAUL V. LEMKAU, M.D.

The Mentally Retarded Children of a Metropolitan County. The Community Mental Health Research Unit, Syracuse, N. Y.

Neuropsychiatric Sequelae of Prematurity: A Longitudinal Study. HILDA KNOBLOCH, M.D.; ROWLAND V. RIDER, Sc.D.; PAUL A. HARPER, M.D.; AND BENJAMIN PASAMANICK, M.D.

Mental Health of Older People in a Metropolitan County. The Community Mental Health Resarch Unit, Syracuse, N. Y.

Business Session.

THURSDAY, 9:45 A.M.

PUBLIC HEALTH CANCER ASSOCIATION

Second Session—Little Theatre, Municipal Auditorium

Presiding: WALTER E. BATCHELDER, M.D., President.

CANCER CONTROL

Cancer Control Activities of the National Cancer Institute. RAYMOND F. KAISER, M.D.

The Development of Cancer Control at the State Level. EDMUND G. ZIMMERER, M.D.

The Place of Cancer Control at the Community Level. KATHRYN E. HERMES AND EVELYN BUBENDORF.

SCHOOL HEALTH SECTION

Second Session—Rooms 308, 309, 310, 311, and 314, Municipal Auditorium

OPEN COMMITTEE MEETINGS

Room 308 **Committee on Rural School Health Services.** MARIAN V. MILLER, Chairman.

309 **Committee on Evaluation.** WESLEY P. CUSHMAN, D.Ed., Chairman.

310 **Committee on Hearing Conservation.** C. ADELE BROWN, M.D., Chairman.

311 **Committee on Research.** J. KEOGH RASH, H.S.D., Chairman

314 **Committee on School Nursing.** FLORENCE L. FOGLE, R.N., Chairman.

THURSDAY, 9:45 A.M.

STATISTICS SECTION AND THE AMERICAN ASSOCIATION OF REGISTRATION EXECUTIVES

Joint Session—Room 502, Municipal Auditorium

Presiding: JEROME W. BROWER.

The Enigma of Cause of Death. ALAN E. TRELOAR, Ph.D.

The Development of the Present Concept of Cause of Death. IWAO M. MORIYAMA, Ph.D.

Ectopic Pregnancy and Spontaneous Abortion in New York City: Some Observations on Incidence and Maternal Characteristics. CARL L. ERHARDT AND HAROLD JACOBZINER, M.D.

THURSDAY, 12:30 P.M.

UNIVERSITY OF CALIFORNIA PUBLIC HEALTH ALUMNI ASSOCIATION

Luncheon Session—Junior Ballroom, Muehlebach Hotel

CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Luncheon Session—Room 217, President Hotel

DIVISION OF INTERNATIONAL HEALTH, U. S. PUBLIC HEALTH SERVICE

Luncheon Session—Reception Room, Continental Hotel

THURSDAY, 12:30 P.M.

LABORATORY SECTION

Luncheon and Afternoon Sessions—Main Ballroom, President Hotel

Presiding: COLONEL DWIGHT M. KUHNS, MC, USA.

The following subjects are planned for discussion at separate tables with a qualified discussion leader at each table:

- Standard Methods for Examination of Water and Sewage
- Laboratory Aids in the Diagnosis of Tuberculosis
- Virus Diagnosis—Tissue Culture
- Laboratory Evaluation Programs
- Toxoplasmosis
- Agglutination Test in the Diagnosis of Enteric Disease
- Present Status of Treponemal Serodiagnostic Procedures
- Poliomyelitis
- Rabies
- Laboratory Use of Antibiotics
- Diagnostic Tests for Syphilis
- Enteropathogenic coli in Infant Diarrhea
- Fourth Edition of Diagnostic Procedures and Reagents
- Status of Survey Tests for Early Detection of Cancer

Tickets for the luncheon may be obtained by writing to Col. Dwight M. Kuhns, MC, Chief, Office of Pathology and Allied Sciences Consultant, Office of The Surgeon General, Army, Main Navy Building, Washington 25, D. C. Please specify the topic desired and enclose a check for $2.65 for the price of the meal. Tickets for tables that have not been filled through advance reservation may be obtained at the Registration Desk, Municipal Auditorium, Kansas City, beginning Monday morning, November 14. Table assignments will be made at the time of purchase of the ticket. Tickets will not be sold at the luncheon; they must be obtained in advance.

Members of all Sections are cordially invited.

MEDICAL CARE SECTION

Luncheon Session—Junior Ballroom, President Hotel

Presiding: PAUL A. LEMBCKE, M.D., Chairman.

OCCUPATIONAL HEALTH SECTION

Luncheon Session—Parlor B, Continental Hotel

Section Business.

THURSDAY, 12:30 P.M.

PUBLIC HEALTH EDUCATION SECTION

Luncheon Session—Trianon Room, Muehlebach Hotel

Presiding: ANN W. HAYNES, Chairman.

Public Health Education in Other Cultures. (Speaker to be announced.)

Report on Section Council Action. New Chairman.

THURSDAY, 2:30 P.M.

AMERICAN PUBLIC HEALTH ASSOCIATION

SPECIAL SESSION

Music Hall, Municipal Auditorium

Presiding: HERMAN E. HILLEBOE, M.D., President, American Public Health Association.

PRACTICAL EXPERIENCE WITH POLIOMYELITIS VACCINE

Invited Participants in Panel:

MALCOLM E. MERRILL, M.D., Moderator.

ROBERT D. DEFRIES, M.D.

THOMAS FRANCIS, JR., M.D.

JONAS E. SALK, M.D.

LEONARD A. SCHEELE, M.D.

HART E. VAN RIPER, M.D.

COORDINATING COMMITTEE ON LABORATORY METHODS AND THE LABORATORY SECTION

Joint Session—Rooms 502 and 503, Municipal Auditorium

Room 502

Subcommittee on Standard Methods for the Examination of Water and Sewage

Presiding: F. WELLINGTON GILCREAS, Chairman.

Delayed Incubation Membrane Filter Test for Coliform Bacteria in Water. PAUL W. KABLER, M.D.

(Cont.)

THURSDAY, 2:30 P.M.

COORDINATING COMMITTEE ON LABORATORY METHODS AND THE LABORATORY SECTION, (Cont.)

Comparative Coliform Densities in Water by Membrane Filter Test and by Multiple Tube Technic. JOSEPH A. MCCARTHY.

Microscopic Examinations in Determination of Water Quality. JAMES A. LACKEY, Ph.D.

Surface Plating Technics for Determining Coliform and Total Counts in High Population Water and Sewage. WALTER L. MALLMANN, PH.D., AND F. R. PEABODY, PH.D.

Room 503

Subcommittee on Standard Methods for the Examination of Dairy Products

Presiding: LUTHER A. BLACK, PH.D., Chairman.

Interrelationships Between Three Bacteriological Methods of Grading Raw Milk Supplies. JAMES J. JEZESKI; JOSEPH C. OLSON, JR.; AND WALLACE C. LAWTON.

A Surface Plating Technic for Determining Bacterial Populations of Milk. WALTER L. MALLMANN, PH.D., AND SELWYN A. BROITMAN.

A Statistical Analysis of Reduction Times in Relation to Plate Counts. EUGENE K. HARRIS; ROBERT C. THOMAS; AND LUTHER A. BLACK, PH.D.

Testing the Performance of Milk Laboratories by Means of Liquid Split Samples. DONALD I. THOMPSON AND ELAINE KOEPP.

DENTAL HEALTH SECTION

Third Session—Room 500, Municipal Auditorium

Presiding: H. SHIRLEY DWYER, D.D.S., Chairman.

SHORT- AND LONG-TERM OBJECTIVES IN DENTAL PROGRAM PLANNING

Panel Discussion

Moderator: THOMAS L. HAGAN, D.D.S.

Participants:

ARTHUR BUSHEL, D.D.S.
LESTER A. GERLACH, D.D.S.
WILLIAM A. JORDAN, D.D.S.
JOHN W. STONE, D.D.S.

THURSDAY, 2:30 P.M.

ENGINEERING AND SANITATION, MATERNAL AND CHILD HEALTH, PUBLIC HEALTH NURSING, AND STATISTICS SECTIONS, AND THE CONFERENCE FOR HEALTH COUNCIL WORK

Joint Session—Arena, Municipal Auditorium

Presiding: WALTER S. MANGOLD, Chairman.

NEIGHBORHOOD PLANNING

ACTION. HENRY F. VAUGHAN, DR.P.H.

How Does Quality of Housing Affect Health and Family Adjustment? DANIEL M. WILNER.

Healthful Housing Standards—A Rational Approach. HAROLD D. ROSE.

Prevention of Delinquency Through Organized Efforts of Neighborhood Residents. CLIFFORD P. SHAW.

Report: Committee on Housing. RALPH J. JOHNSON, Chairman.

FOOD AND NUTRITION SECTION

Second Session—Room 600, Municipal Auditorium

MEDICAL CARE SECTION

Sixth Session—Room 400, Municipal Auditorium

Presiding: I. JAY BRIGHTMAN, M.D.

MEDICAL CARE FOR THE NEEDY

Federal Proposals for Medical Care of the Needy. CHARLES I. SCHOTTLAND.

Health-Welfare Department Relationships in Medical Care of the Needy. JONAS N. MULLER, M.D., AND PEARL BIERMAN.

Indigent Medical Care—The Shawnee County Program. GLENN C. JAMES.

THURSDAY, 2:30 P.M.

SCHOOL HEALTH SECTION

Third Session—Little Theatre, Municipal Auditorium

Presiding: CHARLES C. WILSON, M.D., Chairman.

Committee Reports

Evaluation. WESLEY P. CUSHMAN, D.ED., Chairman.

Hearing Conservation. C. ADELE BROWN, M.D., Chairman.

Rural School Health Services. MARIAN V. MILLER, Chairman.

Research. J. KEOGH RASH, H.S.D., Chairman.

Secondary School Health Services. J. ROSWELL GALLAGHER, M.D., Chairman.

School Health Records. C. MORLEY SELLERY, M.D., Chairman.

School Health Service Statistics. ALAN FOORD, M.D., Chairman.

School Nursing. FLORENCE L. FOGLE, R.N., Chairman.

THURSDAY, 5:30 P.M.

ASSOCIATION OF THE ALUMNI OF THE COLUMBIA UNIVERSITY SCHOOL OF PUBLIC HEALTH

Social Hour, 5:30–7:00 P.M., Junior Ballroom, Muehlebach Hotel

All former students are invited.

LABORATORY SECTION

Social Hour, 5:30–7:00 P.M., Trianon Room, Muehlebach Hotel

THURSDAY, 8:30 P.M.

SECOND GENERAL SESSION

Music Hall, Municipal Auditorium

Presiding: HERMAN E. HILLEBOE, M.D., President, American Public Health Association.

Address: HARRY S. TRUMAN.

Presentation of the Lasker Awards of the American Public Health Association for 1955.

Announcement of New Officers, Resolutions.

Dancing (informal) will follow in the Grand Ballroom, Muehlebach Hotel.

All registered delegates and exhibitors are invited.

FRIDAY, 9:45 A.M.

DENTAL HEALTH, FOOD AND NUTRITION, HEALTH OFFICERS, MEDICAL CARE, PUBLIC HEALTH EDUCATION, AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Arena, Municipal Auditorium

Presiding: J. W. R. NORTON, M.D., Chairman.

NEW APPROACHES TO CHRONIC DISEASE PROGRAMS IN PUBLIC HEALTH

Financing of Long-Term Illness and Preventive Programs. ODIN W. ANDERSON, Ph.D.

What the Dental Profession Has to Offer in the Development of More Adequate Chronic Disease Programs. DONALD J. GALAGAN, D.D.S.

Nutritional Status of the Aging. HAROLD D. CHOPE, M.D.

Public Health Nursing Services Needed to Keep the Chronically Ill Out of Institutions. KATHERINE BULKELEY, R.N.

ENGINEERING AND SANITATION SECTION

Second Session—Room 500, Municipal Auditorium

Presiding: WALTER S. MANGOLD, Chairman.

A Comprehensive Sanitation Personnel Training Program. MEREDITH H. THOMPSON, Dr.Eng.

Recruitment of Engineering Personnel. HERBERT J. DUNSMORE.

Committee Reports

Training: WILLIAM C. GIBSON, Chairman.

Civil Defense: WILLIAM H. CARY, JR., C.E., Chairman.

Food Sanitation: TOM S. GABLE, Chairman.

Hospital Facilities: DONALD L. SNOW, Chairman.

FRIDAY, 9:45 A.M.

EPIDEMIOLOGY, LABORATORY, AND STATISTICS SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Little Theatre, Municipal Auditorium

Presiding: (To be announced.)

The Nonhospitalized Tuberculosis Patient. EDWARD T. BLOMQUIST, M.D.

Changing Concepts of the Usefulness of Tuberculin Skin Testing. MICHAEL L. FURCOLOW, M.D.

Ambulatory Therapy of Tuberculosis: Impact on the Community and the Sanatorium. JOSEPH B. STOCKLEN, M.D.

Unsolved Problems in Tuberculosis Reseach. FLOYD M. FELDMANN, M.D.

MATERNAL AND CHILD HEALTH, OCCUPATIONAL HEALTH, AND SCHOOL HEALTH SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Room 600, Municipal Auditorium

Presiding: CARL A. NAU, M.D., Chairman.

ACCIDENTAL POISONING

Accidental Poisoning on Farms. LOUIS F. GARBER.

Accidental Poisoning in Homes. GEORGE M. WHEATLEY, M.D.

Health Hazards in Home Hobbies. MARIAN GLEASON.

Role of Official Health Agencies in Preventing Accidental Poisoning. RALPH K. LONGAKER, C.E.

Role of Educational Institutions in Prevention of Accidental Poisoning. FRED V. HEIN, PH.D.

FRIDAY, 12:30 P.M.

MEETING OF ALL SECTION COUNCILS WITH THE EDITORIAL BOARD

Luncheon Session—Grand Ballroom, Muehlebach Hotel

Past and Present Section Secretaries are Invited.

FRIDAY, 2:30 P.M.

ASSOCIATION SYMPOSIUM

WHERE ARE WE GOING IN PUBLIC HEALTH?

Basic Issues and Goals

Part 2—Arena, Municipal Auditorium

Moderator: HUGH R. LEAVELL, M.D.

A panel session of public health specialists who will take up the discussion of the first symposium, plus the gleanings from reporters covering Section meetings during the week.

MEETINGS OF THE SECTION COUNCILS

Some of the Sections have scheduled meetings of their Councils at announced hours and in announced places. Others will depend upon getting their Councils together on an informal basis whenever the opportunity presents itself.

Scheduled Section Council meetings are as follows:

Food and Nutrition:	Monday, 7:30 P.M., Parlor D, Continental Hotel.
	Tuesday, 2:00 P.M., Junior Ballroom, President Hotel (at the close of luncheon session of the Section).
Medical Care:	Tuesday, 11:30 A.M., Room 500, Municipal Auditorium (at the close of second session of the Section).
Public Health Education:	Monday, 8:00 A.M., Breakfast, Room A, Muehlebach Hotel.
	Wednesday, 11:30 A.M., Room 500, Municipal Auditorium (at the close of second session of Section).
	Wednesday, 6:30 P.M., Room A, Muehlebach Hotel.
Public Health Nursing:	Sunday night, following Governing Council meeting, in Secretary's room.
	Tuesday, 4:30 P.M., Room 600, Municipal Auditorium (at close of first session of Section).
School Health:	Tuesday, 4:30 P.M., Room 502, Municipal Auditorium (at close of first session of Section).
	Thursday, 4:30 P.M., Little Theatre, Municipal Auditorium (at close of third session of Section).

NOMINATIONS FOR SECTION OFFICES

Following are lists of nominations for certain Sections that were submitted by the Section Nominating Committees in time for publication in the September Journal. All nominees are Fellows of the respective Sections as required in the Constitution and By-laws of the Association. The terms of office are for one year unless otherwise stated.

The By-laws provide that "if the name of any Fellow be transmitted to the Nominating Committee over the signature of ten Fellows of the Section prior to the second meeting of the Section, the Nominating Committee shall add the name of such Fellow to its own list of nominees." The second meeting referred to will be the second meeting of the Section at the forthcoming Annual Meeting. Fellows who wish to add names by petition should comunicate with the Section Secretary whose name and address are also shown.

DENTAL HEALTH SECTION NOMINATIONS

Chairman:	John T. Fulton, D.D.S., Washington, D. C.
Vice-Chairman:	Carl L. Sebelius, D.D.S., Nashville, Tenn.
Secretary:	Donald J. Galagan, D.D.S., Washington, D. C.

(The present Section Secretary is Carl L. Sebelius, D.D.S., 350 Cordell Hull Bldg., Nashville, Tenn.)

ENGINEERING AND SANITATION SECTION NOMINATIONS

Chairman:	Earle W. Sudderth, Dallas, Tex.
Vice-Chairman:	Morton S. Hilbert, Dearborn, Mich.
Secretary:	Clarence I. Sterling, Jr., Boston, Mass.
Member of Section Council, 5-year term:	Herbert M. Bosch, Minneapolis, Minn.
Member of Association Nominating Committee for Elective Councilors:	Walter S. Mangold, Berkeley, Calif.

(The present Section Secretary is Clarence I. Sterling, Jr., 511A State House, Boston, Mass.)

EPIDEMIOLOGY SECTION NOMINATIONS

Chairman:	Robert F. Korns, M.D., Slingerlands, N. Y.
Vice-Chairman:	William W. Frye, M.D., New Orleans, La.
Secretary:	Wendell R. Ames, M.D., Buffalo, N. Y.
Member of Section Council, 5-year term:	James Watt, M.D., Bethesda, Md.
Member of Association Nominating Committee for Elective Councilors:	Colonel Tom E. Whayne, MC, Wynnewood, Pa.

(The present Section Secretary is Wendell R. Ames, M.D., 604 City Hall, Buffalo 2, N. Y.)

FOOD AND NUTRITION SECTION NOMINATIONS

Chairman:	Helen Stacey, Washington, D. C.
Vice-Chairman:	Robert E. Shank, M.D., St. Louis, Mo.
Secretary:	Helen E. Walsh, Berkeley, Calif.
Member of Section Council, 5-year term:	William J. Darby, M.D., Nashville, Tenn.
Member of Association Nominating Committee for Elective Councilors:	Harold R. Sandstead, M.D., Bethesda, Md.

(The present Section Secretary is Helen E. Walsh, 2151 Berkeley Way, Berkeley 4, Calif.)

HEALTH OFFICERS SECTION NOMINATIONS

Chairman:	Daniel Bergsma, M.D., Trenton, N. J.
Vice-Chairman:	Robert N. Barr, M.D., Minneapolis, Minn.
Secretary:	Robert E. Coker, Jr., M.D., Butler, Pa.
Member of Section Council, 5-year term:	J. W. R. Norton, M.D., Raleigh, N. C.
Member of Association Nominating Committee for Elective Councilors:	Ellis D. Sox, M.D., San Francisco, Calif.
Member of Association Standing Committee on Administrative Practice, 3-year term:	Charles L. Wilbar, Jr., M.D., Camp Hill, Pa.
Member of Association Standing Committee on Eligibility, 2-year term:	Harald M. Graning, M.D., Chicago, Ill.

(The present Section Secretary is Daniel Bergsma, M.D., State House, Trenton, N. J.)

LABORATORY SECTION NOMINATIONS

Chairman:	Col. Dwight M. Kuhns, MC, Washington, D. C.
Vice-Chairman:	Morris F. Shaffer, D.Phil., New Orleans, La.
Secretary:	Albert V. Hardy, M.D., Jacksonville, Fla.
Member of Section Council, 5-year term:	S. Edward Sulkin, Ph.D., Dallas, Tex.

(The present Section Secretary is Albert V. Hardy, M.D., P. O. Box 210, Jacksonville, Fla.)

MATERNAL AND CHILD HEALTH SECTION NOMINATIONS

Chairman:	Martha L. Clifford, M.D., Hartford, Conn.
Vice-Chairman:	Maurice D. Vest, M.D., Portland, Ore.
Secretary:	Alfred Yankauer, M.D., Albany, N. Y.
Member of Section Council, 5-year term:	Donaldson F. Rawlings, M.D., Springfield, Ill.
Member of Association Nominating Committee for Elective Councilors:	John A. Lichty, M.D., Denver, Colo.
Member of Association Standing Committee on Eligibility, 2-year term:	Stanley C. Best, M.D., Regina, Saskatchewan, Canada.

(The present Section Secretary is Alfred Yankauer, M.D., 39 Columbia St., Albany 7, N. Y.)

MEDICAL CARE SECTION NOMINATIONS

Chairman:	Frederick D. Mott, M.D., Washington, D. C.
Vice-Chairman:	Milton I. Roemer, M.D., Regina, Saskatchewan, Canada.
Secretary:	Herbert Notkin, M.D., Syracuse, N. Y.
Member of Section Council, 5-year term:	Margaret C. Klem, New York, N. Y.

(The present Section Secretary is Herbert Notkin, M.D., 318 North Clinton, Syracuse, N. Y.)

OCCUPATIONAL HEALTH SECTION NOMINATIONS

Chairman:	Clyde M. Berry, Ph.D., Linden, N. J.
Vice-Chairman:	Robert H. Flinn, M.D., Washington, D. C.
Secretary:	Lewis J. Cralley, Ph.D., Cincinnati, Ohio.
Member of Section Council, 5-year term:	Carl A. Nau, M.D., Galveston, Tex.
Member of Association Nominating Committee for Elective Councilors:	Heinrich Brieger, M.D., Philadelphia, Pa.
Member of Association Standing Committee on Eligibility, 2-year term:	Dohrman H. Byers, Cincinnati, Ohio

(The present Section Secretary is Lewis J. Cralley, Ph.D., 1014 Broadway, Cincinnati 2, Ohio.)

PUBLIC HEALTH EDUCATION SECTION NOMINATIONS

Chairman:	Louisa Eskridge Haas, Washington, D. C. Cassie B. Smith, Jackson, Miss.
Vice-Chairman:	Mary Parks Armstrong, Albany, N. Y. Robert O. Yoho, Indianapolis, Ind.
Secretary:	Norma Johannis, Denver, Colo. J. Louis Neff, Mineola, N. Y.
Member of Section Council, 5-year term:	John E. Baker, Jr., Washington, D. C. Hugh R. Leavell, M.D., Boston, Mass.
Member of Association Nominating Committee for Elective Councilors:	Audie L. Knutson, Ph.D., Washington, D. C. Lucy S. Morgan, Ph.D., Chapel Hill, N. C.

(The present Section Secretary is Lucretia A. Saunders, 1801-D Spruce St., Berkeley, Calif.)

PUBLIC HEALTH NURSING SECTION NOMINATIONS

Chairman:	Portia G. Irick, R.N., Sante Fe, N. M. Marion I. Murphy, R.N., Minneapolis, Minn.
Vice-Chairman:	Margaret Ranck, R.N., Carthage, Ill. Julia D. Smith, R.N., Chapel Hill, N. C.
Secretary:	Agnes Fuller, R.N., New York, N. Y.
Member of Section Council, 5-year term:	Ruth W. Hay, Chapel Hill, N. C. Jeanne Hess, Albany, N. Y. Pearl Shalit, R.N., Bethesda, Md.
Member of Association Nominating Committee for Elective Councilors:	Ella E. McNeil, R.N., Ann Arbor, Mich.
Member of Association Standing Committee on Eligibility, 2-year term:	Pearl P. Coulter, R.N., Boulder, Colo. Fannie T. Warncke, Oakland, Calif.

(The present Section Secretary is Helen L. Fisk, R.N., 2411 No. Charles St., Baltimore 18, Md.)

SCHOOL HEALTH SECTION NOMINATIONS

Chairman:	Franklin M. Foote, M.D., New York, N. Y. Wesley M. Staton, Ed.D., Gainesville, Fla.
Vice-Chairman:	Marjorie L. Craig, New York, N. Y. Edward B. Johns, Ed.D., Los Angeles, Calif.
Secretary:	J. Keogh Rash, H.S.D., Bloomington, Ind. Elena M. Sliepcevich, D.P.E., Springfield, Mass.
Member of Section Council, 5-year term:	Dorothy M. LaSalle, Ed.D., Detroit, Mich. Mary E. Spencer, Ph.D., Malden, Mass.
Member of Association Nominating Committee for Elective Councilors:	Wesley P. Cushman, D.Ed., Columbus, Ohio. Marian V. Miller, New York, N. Y.
Member of Association Standing Committee on Eligibility, 2-year term:	Patricia J. Hill, Sacramento, Calif. Guy N. Magness, M.D., University City, Mo.

(The present Section Secretary is Elena M. Sliepcevich, D.P.E., Springfield College, Springfield, Mass.)

STATISTICS SECTION NOMINATIONS

Chairman:	Ann Dillon, Nashville, Tenn. John W. Fertig, Ph.D., New York, N.Y.
Vice-Chairman:	William M. Haenszel, Bethesda, Md. Matthew Taback, Sc.D., Baltimore, Md.
Secretary:	Robert D. Grove, Ph.D., Washington, D. C. Felix E. Moore, Silver Spring, Md.
Member of Section Council, 5-year term:	Fay M. Hemphill, Ph.D., Ann Arbor, Mich. Howard West, Washington, D. C.
Member of Association Nominating Committee for Elective Councilors:	Paul W. Shipley, San Francisco, Calif.
Member of Association Standing Committee on Eligibility, 2-year term:	Major Clifford H. Greve, Washington, D. C.

(The present Section Secretary is William M. Haenszel, Room 2203, Bldg. T-6, Bethesda, Md.)

THE TECHNICAL AND SCIENTIFIC EXHIBITS

Kansas City Municipal Auditorium
November 14–18, 1955

The scientific program for the 83rd Annual Meeting of the Association and meetings of 44 related organizations in Kansas City, Mo., November 14–18, is presented on the preceding pages. It is distinguished by the same high quality that has made Association meetings outstanding over the years. More than 400 speakers are participating in some 135 sessions, covering the full range of activities and interests of modern public health practitioners.

But the Association's Annual Meeting is more than a scientific program. While 400 speakers bring 4,500 delegates the newest and best in public health practice and procedures, more than 200 technical and scientific exhibits bring them similarly cogent information visually portrayed. In the technical exhibit delegates can examine supplies and equipment for hospitals, clinics, laboratories; for milk, water and food protection; for diagnostic and treatment purposes; for industrial, institutional, and restaurant sanitation. The newer drugs and their public health significance, books and periodicals, foods, furniture, hearing aids, soaps and detergents, rodenticides, education materials in many forms and on many subjects—all these and more can be seen in the technical exhibit.

The scientific exhibit is as varied and comprehensive as the scientific program. State and city health departments, government agencies, schools of public health, and national and local voluntary agencies are picturing new aspects of their program.

The technical exhibit presents products, services, and equipment beneficially affecting public and individual health and commercially available to the public health worker in 1955. The scientific exhibit presents technical advances, new health education technics, and attacks on special problems.

Listed below are the participants to date in the technical and scientific exhibits. The aware delegate will welcome the opportunity to study all the exhibits and to talk with the informed persons in attendance, many of whom are Association members. The Executive Board and the Program Committee welcome these exhibits for what they are—invaluable contributions to the working knowledge of public health workers.

TECHNICAL EXHIBITORS

Airmass, Inc. — alternating pressure point pads for bed-sore prevention

Aloe Scientific Division of A. S. Aloe Co.—scientific laboratory apparatus and equipment

American Can Co.—nutrition literature

American Hospital Supply Corp.—products for the bacteriological and diagnostic laboratory

American Medical Association—"Today's Health"

American Optical Co.—scientific instruments

American Tobacco Co. Research Laboratories—quality control instruments and technics

Association Conventions Exhibits — combined book exhibit

Association of American University Presses — books from university presses

Audivox, Inc.—audiometers and hearing aids

Baby Development Clinic — Evenflo products; Dial soap

Baltimore Biological Laboratory, Inc.

— powdered bacteriological media, special biochemical apparatus

Bankers Life & Casualty Co.—health, accident and life insurance

Beatrice Foods Co. — dairy and food products

Becton, Dickinson & Co. — syringes, needles, blood donor sets, and laboratory products

Beltone Hearing Aid Co.—audiometers and Beltone hearing aids

The Best Foods, Inc. — Nucoa, Hellmann's and Best Foods spreads and condiments

Blakiston Division, McGraw-Hill Book Co., Inc.—medical and nursing textbooks

The Borden Co.—dairy products, instant coffee and mince meat

Carnation Co.—milk products for infant feeding and special diets

Case Laboratories—bacteriological culture media

Cereal Institute, Inc. — nutrition material on breakfast cereals

The Chicago Dietetic Supply House, Inc. —Cellu dietary foods for sodium, sugar, starch restricted diets and allergy diets

Chilean Iodine Educational Bureau, Inc.—iodine in surgery, medicine, nutrition and sanitation

ClerSite Co.—ClerSite eye glass cleaner

The Coca-Cola Co.—"Refresh Yourself with Coca Cola"

Difco Laboratories — microbiological culture media and reagents for public health and clinical laboratories

Donco, Inc.—rodenticides

Economics Laboratory, Inc.—dishwashing detergents and equipment; germicides

Evaporated Milk Association—nutrition publications, posters and film information

Everest and Jennings—wheel chairs and walkers

Galvanized Ware Manufacturing Council—galvanized steel garbage cans for controlling rats and flies

Graf-Apsco Co. — microscopes and microtomes, new and rebuilt

John Hancock Mutual Life Insurance Co.—health education materials

Heinicke Instruments—laboratory glassware washers

Hobart Manufacturing Co.—dishwashing, glass washing, food preparing machines

International Cellucotton Products Co. —materials and films on menstrual health and the common cold

Kewaunee Manufacturing Co.—radio, chemical and bacteriological safety enclosures

Kimble Glass Co., laboratory glassware

Lafayette Pharmacal, Inc. — pharmaceuticals

E. Leitz, Inc.—photomicrographic apparatus, scientific optical equipment

Licensed Beverage Industries, Inc.— literature on alcoholism as a medical and public health problem

Life and Health — a national health journal

Eli Lilly & Co.—pharmaceuticals and biologicals

Lily-Tulip Cup Corp.—educational material for food handler training courses

Lincoln Laboratories, Inc. — pharmaceuticals

The Lorvic Corp.—Karidium tablets for systemic control of dental caries in children

M & R Laboratories, SIMILAC Division —Similac, an infant formula

MacGregor Instrument Co. — hypodermic needles and syringes, Forsbeck needle holder for group immunization

The Macmillan Co.—books for the public health profession

Millipore Filter Corp.—Millipore membrane filter for bacteriological water analysis

C. V. Mosby Co.—books for health workers

National Dairy Council—health and nutrition education materials

National Live Stock & Meat Board—nutrition education material

Original Contour Chair Lounge—contour chairs

Oval Wood Dish Corp. — Riteshape tongue blades, disposable Ritespoons and Riteforks

Parke, Davis & Co.—pharmaceuticals, biologicals and surgical dressings

Pepperidge Farm, Inc.—bread, rolls and bakery products

Pepsi-Cola Co.—"Pepsi Cola Hits the Spot"

Pet Milk Co.—evaporated milk and instant nonfat dry milk

Pitman-Moore Co.—poliomyelitis vaccine

Precision Scientific Co. — color photographs of more than 1,500 laboratory items; instruments for use in public health laboratories

Procter and Gamble Co. — fine fabric soaps and synthetic detergents; Ivory and Camay bar soaps; shampoos.

Public Health Committee of the Paper Cup and Container Institute—literature pertaining to sanitation in public eating and drinking establishments; food handler training aids

W. B. Saunders Co.—text and reference books

Sealright Co., Inc.—plastic coated paper milk bottle closures and cartons

The Seven-Up Co. — "Fresh Up with 7-Up"

Smith, Kline & French Laboratories—pharmaceuticals

Sonotone Corp.—audiometers and hearing aids

E. R. Squibb & Sons, Division of Mathieson Chemical Corp.—pharmaceuticals

Sterwin Chemicals — Roccal, sanitizing agent

Tampax, Inc.—educational material on menstrual health

Triton Engineering Co.—Burt bacteriological and biological molecular filtration assay sampling instruments and technics; air or water sampling hydrosol and aerosol filter units

Wallace & Tiernan, Inc.—chlorination equipment and information on fluoridation

Wyeth Laboratories—antibiotics

SCIENTIFIC EXHIBITORS

American Association of Medical Social Workers—

American Cancer Society—the facts of life about cancer

American Dental Association — children's dental health, whose responsibility?

American Dietetic Association—nutrition for the grade-school child

American Heart Association—the prevention of rheumatic fever

American Hospital Association—publications and activities

American Medical Association—hazards of solvents—at home, on the job

American Nurses' Association, Inc.—through ANA nurses can achieve

American Occupational Therapy Association — the story of occupational therapy

American Physical Therapy Association —the role of the physical therapist in a home care program

American Red Cross—mounted blood derivative exhibit

American Social Hygiene Association—

American Veterinary Medical Association—the care of laboratory animals

Arkansas Board of Health—joint planning for school health in Arkansas

Association for the Aid of Crippled Children—the program of the association, its research grants, joint support of a rehabilitation center for children and publications

Baltimore City Health Department—

Baltimore City Health Department medical care program

Bureau of Medicine and Surgery, Department of Navy—Treponema pallidum immobilization test

Canadian Department of National Health and Welfare—Canada's national health services

Common Cold Foundation, Inc.—research progress on the common cold

Department of Health, Education, and Welfare—

Children's Bureau—

Division of Hospital and Medical Facilities — building facilities for the nation's health

Division of International Health—United States health workers around the world

Office of Vocational Rehabilitation—the new vocational rehabilitation law

Public Health Service—opportunities in the Public Health Service

Public Health Service (Dental Activities)—dental activities of the Public Health Service

Equitable Life Assurance Society of the United States and the National Health Council—recruitment for the public health professions

Federal Civil Defense Administration—medical aspects of Civil Defense

Health Insurance Plan of Greater New York—prepaid medical group practice

Illinois Department of Public Health—visual education—lay obstetrical instruction and organization of a state maternal welfare program

Iowa State Department of Health—radio in health education

Jackson County Medical Society and The Benjamin Burrough Ralph Foundation for Medical Research—alcoholism

Mental Health Materials Center—APHA committee on child health publications and human relations aids program packet service

Metropolitan Life Insurance Co.—for your community health and safety program

Missouri Division of Health — local health services

Muscular Dystrophy Associations of America, Inc.—manifestations of muscular dystrophy

National Association for Mental Health—the five-point program of the association

National Foundation for Infantile Paralysis—results of the evaluation of the poliomyelitis vaccine

National Publicity Council for Health and Welfare Services—the services of the council and samples of council publications

National Sanitation Foundation—a food protection program for the nation

National Society for the Prevention of Blindness — prevention of blindness from retrolental fibroplasia

National Tuberculosis Association—TB—a treatment problem

New Jersey State Health Department—a method of recording public health programs

New York State Department of Health—Occupational Health Services—mobile units for occupational health services

Pennsylvania State Department of Health—alcoholism is a disease

Research Foundation—BCG—vaccination against tuberculosis

U. S. Air Force Medical Service—epidemiology in action

U. S. Army Medical Service — new chemicals for personal protection against insect vectors

Veterans Administration—U. S. Veterans Administration tuberculosis case-finding program and psychiatric services in general hospitals

Vocational Counseling and Placement, APHA—jobs and candidates

World Health Organization — Malaria eradication in the Americas

83rd ANNUAL MEETING

HOW TO MAKE HOTEL RESERVATIONS FOR THE KANSAS CITY ANNUAL MEETING

A HOUSING BUREAU will be operated by the Kansas City Convention Bureau for the 83rd Annual Meeting of the APHA in Kansas City, Mo., November 14–18. Since all requests for rooms will be handled in chronological order, you are urged to send in your reservation as quickly as possible on the form below.

Hotel	Hotel and Rates Single	Double	Twin
Hotels immediately adjacent to Auditorium:			
Aladdin	$4.00– 7.00	$6.00–10.00	$ 8.00–10.00
Continental	5.00– 7.00	7.00– 9.00	8.00–12.00
Dixon	4.00– 5.00	6.00– 7.00	8.00– 9.00
Kansas Citian	3.50– 6.00	5.50– 8.50	6.00– 8.00
Muehlebach	6.50–13.00	8.00–13.00	10.00–15.00
New Yorker	5.00–10.00	7.00–12.00	9.00–12.00
Phillips	6.00– 7.50	8.00– 9.50	9.00–11.00
President	5.00– 9.00	8.00–11.00	10.00–13.00
Senator	3.00– 6.00	3.50–10.00	8.00–15.00
State	4.00– 6.00	6.25– 8.25	7.50– 9.00
Hotels within three or four blocks of Auditorium:			
Pickwick	4.50– 7.50	6.00– 9.00	6.50– 9.50
Plaza	2.00– 3.50	2.50– 5.00	
Hotels within short taxi ride from Auditorium (approximately 45¢):			
Alcazar	2.50– 3.50	3.00– 5.00	
Ambassador	4.00– 6.00	5.50– 7.50	5.50– 7.50
Bellerive	5.00– 8.00	7.50–10.50	9.00–10.50
Town House (65¢ cab fare from Auditorium)	5.00– 9.00	7.50–10.00	8.50–14.00

Rates for suites available on request.

HOTEL RESERVATION FORM

MAIL TO: Miss Mary Nugent
Housing, Convention and Visitors Bureau
1030 Baltimore, Kansas City 6, Mo.

PLEASE MAKE RESERVATIONS NOTED BELOW: (Please Print or Type.)

First Choice ..... Hotel Arrival: ....., at ..... a.m. ..... p.m.

Second Choice ..... Hotel Departure ....., at ..... a.m. ..... p.m.

Third Choice ..... Hotel

..... Single room @ $..... ..... Twin Bedroom @ $.....

..... Double Bedroom @ $.....

NAMES OF ALL OCCUPANTS: ADDRESSES:

....

....

....

MAIL CONFIRMATION TO: Signed: .....

Address .....

..... City Zone State

Confirmation will be mailed within 30 days of receipt of this form by the Division of Housing, Convention Bureau, Kansas City, Mo.

KANSAS CITY TOURIST COURTS, TRAILER CAMPS, AND MOTELS

Good motel rooms are available at prices ranging from $4.00–$7.00 per day for two, $12.00 for four, within easy distance of Kansas City. You will be assigned to good, convenient motel rooms if you will indicate below your interest in such. Motel reservations will be made by the Housing Bureau and confirmed by the motel.

All the following are members of the Kansas City Motel Association:

Ace of the Hi-Way Court	8216–71 Highway
Annette Modern Cabins	81 and 61 Highway
Arrow Court	Highway 24 and 71 Cutoff
B-B Lodge	Highway 40 and Blue Ridge Cutoff
Capital Service Station and Cabins	116 and 71 Highway
Clay Motel	4018 N. Oak
Collins Court	9501 E. New 40 Highway
Crown Motor Court	4340 State-Kansas City, Kans.*
Davidson Courts	115 and 71 Highway
El Cabanas	½ Mile East of City Limits on No. 50
Flicklin Tourist Court	3647 State-Kansas City, Kans.*
Four-Acre Motel	8220 So. 71 Highway
Hi-Way Motel	71 Highway and Bannister
Gables Motel	6831 State-Kansas City, Kans.*
Holiday Inn Hotel	US 40 and 71 By Pass (5 miles East of Kansas City, Mo., and 3 miles South of Independence, Mo.)
Johnson Motel Tourist Courts	107 St. and 71 Highway
Kozy Kourt	36 Terrace and New 40 Highway
Leeds Motel Courts	3707 Raytown Road
Putthoff's Modern Cottages	40 Highway and Blue Ridge
Rainbow Auto Court	5912 E. 50 Highway
Royal Auto Court	7831–69 Highway
Skyline Court	3531 N. Oak, N. Kansas City
Sky-Vu Motel	New 40 Highway and Marsh, N. Kansas City
U. Smile Station No. 1	Old 40 Highway and Raytown Road
U. Smile Motel	50 Highway at 58th Street
U. Smile Court	40 Highway and Skiles
Waight's Tourist Camp	79 and 50 Highway
West Haven Motor Court	5250 State-Kansas City, Kans.*
Wornall Motel Tourist Court	8215 Wornall
Young's Motel	5024 Merriam Drive, Kansas City, Kans.*

* Kansas City, Kans., is one mile from Kansas City, Mo.

MOTEL RESERVATION FORM

MAIL TO: Miss Mary Nugent
Housing, Convention and Visitors Bureau
1030 Baltimore, Kansas City 6, Mo.

Please assign Motel accommodations for ..... persons arriving on November ..... and leaving on November .....

NAMES OF ALL OCCUPANTS: ADDRESSES:

....

....

....

....

MAIL CONFIRMATION TO: Signed: .....

Address .....

..... City Zone State

Association News

News of Affiliated Societies

Georgia—The Georgia Public Health Association held its 26th annual meeting in Savannah for three days in April. "Forecasting Georgia's Health" was the theme of the meeting. The Georgia study of services for the handicapped, which was directed by Samuel M. Wishik, M.D., was reported and discussed. Among other subjects discussed were: Further Poliomyelitis Research Needs, New Trends in Financing Health Programs, Planning and Evaluating Local Health Programs, and Public Health's Responsibility in Chronic Illness and Home Nursing Care.

A new feature initiated at the 1955 meeting was the presentation to each living past president of the association of a bronze plaque on mahogany with appropriate engraving. The association has had 24 presidents in its 26 years. Of these 19 are still living.

Newly elected officers are:

President—W. D. Lundquist, M.D., health commissioner, Bulloch County, Statesboro
President-Elect—Louva G. Lenert, Division of Engineering, Georgia Department of Public Health, Atlanta
Vice-President—Mary Johstone, State Central Health Region, Macon
Secretary—J. F. Hackney, M.D., Fulton County Health Department, Atlanta
Treasurer—Ernest B. Davis, secretary-treasurer, Georgia Department of Public Health
Representative on Governing Council, APHA—E. G. Eggert, State Central Health Region.

Idaho—The Idaho Public Health Association reports the following officers elected at its annual meeting in McCall, May 7–8:

President—W. R. Jacobs, M.D., Lewiston
Vice-Presidents—A. Ben Wheeler, Boise; Doyle M. Loehr, M.D., Moscow; Leslie T. McCarthy, Lewiston; Gerald P. Larson, D.D.S., Boise; Ruth Terhune, Burley
Secretary—Mrs. Don W. McDougal, Boise
Treasurer—Dorothy D. Campbell, Boise.

Illinois—The Illinois Public Health Association met in Chicago, April 20–22, in a joint conference with the Middle States Public Health Association. Two or more sessions were held by each of seven sections. Among the topics discussed at general sessions were "Hoover and Kestenbaum Commission Reports as They Affect Public Health," led by Edwin Crosby, M.D.; "Trends in Public Health," led by John Porterfield, M.D.; and "Modern Hazards to the Deeper Appreciation of Interpersonal Relationships—Public Health's Response," led by William J. Devlin, S.J., M.D.

Among the resolutions passed by the Illinois Association was one asking that "for manifest reasons" APHA headquarters be moved to the midwest and recommending Chicago as the ideal location. This resolution has been passed on to the APHA Executive Board. Another requested the U. S. Congress to restore the $1,660,000 cut in the amount budgeted by the House of Representatives for Assistance to States-General by the Public Health Service.

Ben Kiningham, M.P.H., executive secretary of the Illinois Tuberculosis Association, succeeded Felix A. Tornabene, M.D., district health officer of the State Health Department, as president. Other officers elected are:

President-Elect—George F. Forster, Ph.D., assistant director, Division of Laboratories, State Health Department, Chicago
Secretary-Treasurer—Lillian Nash Fitz Simmons (re-elected) chief, Division of Nutrition, Cook County Health Department, Chicago
Delegate to APHA Governing Council—L. L. Fatherree, health officer, Will County, Joilet.

Massachusetts—At the meeting of the Massachusetts Public Health Association in Boston, April 28, John C. Ayres, M.D., health commissioner of Springfield, succeeded Ralph L. France, head

of the Department of Bacteriology and Public Health, University of Massachusetts, as president. Dr. Ayres serves also as representative to the APHA Governing Council. Other officers elected are:

President-Elect—Alfred L. Frechette, M.D., director, Health, Hospitals and Medical Care Division, United Community Services, Boston
Vice-President—Nicholas J. Fiumara, M.D., director, Division of Venereal Diseases, State Health Department
Recording Secretary—Dorothy A. Gullason, principal clerk, State Health Department
Treasurer—Victoria M. Cass, M.D., assistant director, Peter Bent Brigham Hospital.

Missouri—The Missouri Public Health Association met in St. Louis, May 12–14. Among its special activities was presentation of the fifth annual W. Scott Johnson Award to Arthur C. Magill, Ph.D., representative of Cape Girardeau County in the General Assembly of Missouri. He was cited primarily for his long and profitable efforts toward inspiring public water supplies in the state.

The W. Scott Johnson Award, consisting of a scroll, is supported by a memorial fund established by friends of the late Mr. Scott, an active member of the association at the time of his death in 1950.

The following officers of the association for the coming year were elected:

President—Ralph E. Duncan, M.D., Kansas City
President-Elect—Helen Kinney, R.N., State Division of Health, Jefferson City
Vice-President—W. Kenneth Grubb, health educator, St. Louis County Health Department, Clayton
Secretary-Treasurer—Nadia Craver, State Division of Health.

Montana—The Montana State Public Health Association held its 37th annual meeting in Missoula in June. G. Carlyle Thompson, M.D., state health officer and R. R. Renne, M.D., president of Montana State College, discussed "Montana's Ability to Pay for Public Health Services." The budget for the State Board of Health had just been cut 8 per cent, $50,000 the biennium.

The advantages and safety of fluoridation were described by J. Roy Doty, D.D.S., secretary of the Committee on Dental Therapeutics, American Dental Association. The Montana Association followed with a resolution endorsing the controlled fluoridation of public water supplies as an aid in the control of dental decay.

The following officers were elected:

President—Mary E. Soules, M.D. (re-elected) health officer, Missoula and Mineral Counties, Missoula
Vice-President—Robert J. Mattson, Montana Cerebral Palsy Center, Billings
Secretary—Harriet Patterson, R.N., public health nurse, Lake and Sanders Counties, Thompson Falls
Treasurer—Vernon Sloulin, sanitarian, State Board of Health, Helena.

New York—The New York Public Health Association met in Lake Placid, June 6–9, in connection with the 51st Annual Health Conference of the State Department of Health. Registration totaled 1,800. At the luncheon meeting, Herman E. Hilleboe, M.D., state health officer and president of the APHA, brought its greetings to the meeting and urged upon the state group an active campaign for members in the state and national associations.

Robert W. Osborn, secretary, Tuberculosis and Public Health Committee, State Charities Aid Association, New York City, succeeded Wendell L. Ames, M.D., deputy commissioner, Erie County Health Department, as president. Other officers are:

President-Elect—E. Dorothy Gordon, State Health Department
Vice-Presidents—Donald J. Dean, D.V.M., Bureau of Epidemiology and Communicable Disease Control, State Health Department,

Albany; J. H. Prince, M.D., health officer, Jamestown State Health District
Secretary—Bosse Randle, R.N., director, Division of Public Health Nursing, Nassau County Health Department, Garden City
Treasurer—Marion Henry, director, Business Administration, State Department of Health
Representative on APHA Governing Council—Mary E. Parker, R.N., director, Public Health Nursing, State Health Department.

South Carolina—The theme of the 32nd Annual Meeting of the South Carolina Public Health Association held at Clemson College, May 19–21, was "Fiber in Fabric." This theme was carried out in three general sessions devoted respectively to "Designing the Pattern," "Weaving the Fabric," and "Processing Human Fiber and Fabric." Section programs also carried out the theme, as for example, "Weaving the Mental Health Thread into Public Health Fabric" discussed by the Medical Care Section.

Blanche R. Speed, R.N., of the State Orthopedic Clinic, Greenville General Hospital, succeeded William T. Linton, sanitary engineer, State Board of Health, as president. Other officers elected are:

President-Elect—James T. Hane, sanitarian, State Board of Health
Vice-President—Claire Rouse
Secretary—Carrie B. DuPriest
Treasurer—Cecil Seigler
Representative to APHA Governing Council—G. S. T. Peeples, M.D., state health officer.

Utah—The Utah Public Health Association met in Ogden, April 25–26. W. V. Hickey, chief sanitarian, Salt Lake City Health Department, was the outgoing president. Newly elected officers are:

President—Dorothy Lowman, director of nurses, State Health Department
President-Elect—Grant Borg, professor of civil engineering, University of Utah
Vice-President—R. S. Cunningham, chief sanitarian, Weber County, Ogden
Secretary—Mildred Emgar, secretary, Salt Lake City Board of Health
Treasurer—Claude B. Duerden, health educator, State Health Department
Representative on APHA Governing Council—D. K. Barnes, M.D., health officer, Davis County, Kaysville.

Proposed APHA Section on Mental Health

A committee under the chairmanship of John D. Porterfield, M.D., Columbus, Ohio, has been formed to explore the possibility of a section on mental health of the American Public Health Association. It is the intent of the committee to bring in all of the disciplines associated with mental health, particularly at the community level, and to include physicians, nurses, social workers, psychologists, and others.

The committee will welcome information from any persons, either members or nonmembers of the APHA, who would be interested in such a section. Communications with reference to membership should be sent to the Secretary of the Committee for a Mental Health Section of the American Public Health Association who is Rema Lapouse, M.D., 3435 Main St., Buffalo 14, N. Y.

APHA membership application blank on page XXXVII

Employment Service

The following pages present information for those seeking public health personnel and for those seeking positions in public health. Other information concerning vacancies and personnel available is on file in the Association Office. Anyone wishing to have the benefit of this additional information can obtain it by writing to the Vocational Counseling and Placement Service of the Association.

Advertising space in these pages is available at special rates for the use of employers or individuals. The charges are $5 for the first 50 words or fraction thereof and $1 for each additional 10 words or fraction thereof. There is no charge to members or Fellows of the Association who desire to utilize the **Positions Wanted** portion of these pages.

POSITIONS AVAILABLE

Deputy Director—for a well organized county health department in Michigan. Physician must have training in public health and eligible for Michigan license. Attractive salary, traveling expense and generous fringe benefits. Write **Box PH-52,** Employment Service, APHA.

Public Health Director—for city of 30,000 population. Must be licensed doctor of medicine with master's degree in public health. Salary $9,200 per year. Board of Health, Middletown, Conn.

Chief of Preventive Medical Services—State Health Department, midwest. Salary $8,000–$10,000. Write **Box PH-54,** Employment Service APHA.

Public Health Physician—Chief, Division of Chronic Diseases. Responsible position involving the development and direction of a chronic diseases program; experience in public health required. Experience in chronic diseases control program desirable. Eligible for Ohio license. Write Director, Ohio Department of Health, Columbus 15, Ohio.

Director, Division of Tuberculosis Control—Applicant must have postgraduate training in clinical tuberculosis or public health, four years' practice of medicine, two of which were in clinical tuberculosis or administrative public health. Salary $15,000.

Chief, Section Maternal and Child Health and Crippled Children's Services—Applicant must have postgraduate training in pediatrics, obstetrics, or public health, and three years' administrative experience in public health. Limited substitutions permitted. Salary open. Write Alaska Department of Health, Alaska Office Building, Juneau, Alaska.

Medical Superintendent—45-bed tuberculosis hospital, expanding to 90 bed. Salary open. Private residence on grounds. Experience in tuberculosis required. Apply to Trumbull County Commissioners, Court House, Warren, Ohio.

Executive Secretary — Oahu Health Council, Honolulu, Hawaii. Qualifications: M.P.H. degree and four years of experience in public health. Beginning salary $450 per month; maximum, $570, plus automobile allowance. Write to Walter Quisenberry, M.D., 1018 Lunalilo Street, Honolulu, Hawaii, for further information, application blanks, etc.

Public Health Bacteriologist—Immediate opening. Salary range $337–$417. Public health bacteriologist and milk bacteriologist certificates issued by the State of California required. Selection will be made on the basis of personal interview or investigation. Apply Orange County Personnel Department, 644 North Broadway, Santa Ana, Calif.

Sanitarian—Immediate opening. Salary range $337–$417. Registration or eligibility for registration by the State of California as a sanitarian required. Selection will be made on the basis of personal interview or investigation. Apply Orange County Personnel Department, 644 North Broadway, Santa Ana, Calif.

Bacteriologist—New York State County Laboratory. Modern, well equipped and staffed laboratory. Master's degree or bachelor's degree with equivalent experience. Civil service but temporary appointment can be arranged. Salary $4,200 going to $4,700 by five annual $100 increments. Joseph Lebowich, M.D., Director, Saratoga County Laboratory, 215 Church Street, Saratoga Springs, N. Y.

Sanitarian—for generalized program in rural county of about 21,000 population. Salary $200–$300 with travel allowance. Living conditions and available housing moderately priced. P. C. Supan, M.D., M.P.H., Director, Effingham County Health Department, 112 East Section Avenue, Effingham, Ill.

Public Health Engineer—for two-county rural area. Salary $340–$500 with travel allowance. Living conditions and available housing moderately priced. P. C. Supan, M.D., M.P.H., Director, Shelby and Effingham Counties. Address correspondence to Effingham County Health Department, 112 East Section Avenue, Effingham, Ill.

Sanitarian Director—Registered in California. Salary range $310–$376 (may

increase at budget time). Immediate appointment; no examination required. One year general experience desired. Mileage allowance 10 cents per mile; three weeks' vacation per year; travel expenses paid. General urban, rural, and resort (Lake Tahoe) sanitation. Contact A. A. McKinnon, M.D., Health Officer, El Dorado County Health Department, 8 Chapel St., Placerville, Calif.

Health Educator: Male or female—In voluntary health agency in rural-urban area of 409,000 population. Four weeks' varation, retirement, social security. Eight cents a mile travel with own car. Contact Southern Worcester County Health Association, 55 Cedar Street, Worcester, Mass.

Medical Social Consultant—to carry out a state-wide social service program in connection with the social aspects of health and medical care of crippled children. Requires completion of approved course in medical social course and three years' practice. $4,800 a year with 5 per cent annual increment for meritorious service. Lease car transportation available. Write Hale Laybourn, State Health Department, Cheyenne, Wyo.

Physical Therapy Consultant—to carry out state-wide program of planning, organizing, and directing physical therapy services. Must have completed approved course in physical therapy and at least three years' experience and practice in physical therapy, of which one year must have been in supervisory capacity. $4,800 a year with 5 per cent annual increment for meritorious service. Lease car transportation available. Write Hale Laybourn, State Health Department, Cheyenne, Wyo.

Two Public Health Nurses Needed—Generalized with school program. Upper Sacramento Valley in foothills of Sierra Mountains. Liberal personnel policies. 37½ hour week. No uniforms. Optional county car or eight cents a mile. Salary $315–$391. Write G. L. Faber, P. O. Box 1100, Chico, Calif.

Medical Facilities Nurse Consultant—to carry out state-wide program in construction of medical facilities, licensure of hospitals, nursing homes and related institutions, educational program for improvement of nursing care in medical facilities and promulgation of standards for licensure. $4,800 a year with annual advancement under merit system. Lease car available. Hale Laybourn, Administrative Officer, Department of Public Health, Cheyenne, Wyo.

Public Health Nurse—needed for one of the most picturesque and health-minded areas in California. Salary range $307–$373. May start higher if qualifications and experience warrant. Applicant must possess a valid license as an R.N. and a certificate as a public health nurse in California. Automobile furnished. For further information contact Mrs. Mary Felkins, Acting Director of Nurses, Santa Barbara County Health Department, P. O. Box 486, Santa Maria, Calif.

Physical Therapists — for physically handicapped children needed in California state institutions and public schools. Must have one year of supervised experience following graduation from recognized school of physical therapy. Mail application before October 6 for nation-wide civil service examination. Apply State Personnel Board, 801 Capitol Avenue, Sacramento 14, Calif.

Staff Public Health Nurses—City-county health unit. Population 47,000. Health conscious community with excellent clinical and research facilities. Staff includes full-time health officer and other specialists, including 13 qualified staff nurses. Generalized program. Active student program. Degree or certificate in public health nursing. Mileage 7½ cents per mile. Salary $325 and up according to experience. Dorothy E. Anderson, Director of Public Health Nursing, Public Health Center, Rochester, Minn.

Public Health Nurse—Staff position, starting salary $315. California public health nursing certificate required. Generalized program. Car allowance $120 per month. Write Margaret Bernard, Director, Public Health Nursing, Mendocino County Health Department, 880 North Bush Street, Ukiah, Calif.

Public Health Nurse—Experience in public health nursing not essential, but preferred. Inservice training, large city-county health unit, salary $3,500–$4,000, social security and generous sick leave. Immediate appointment. Write: Director, Kalamazoo City-County Health Department, 241 West South Street, Kalamazoo, Mich.

Sanitarian—for Peoria City Health Department. Assistant to the Director of Division of Sanitation. Should have M.P.H. degree and experience. $4,800, plus good retirement benefits, starting salary. Dr. Fred Long, City Hall, Peoria, Ill.

Clinical Instructor in Public Health Nursing—to assist with field experience program in collegiate school of nursing. Degree in public health nursing or degree in nursing plus completion of course in public health. General public health nursing experience, preferably in agency providing field work for students. Experience in supervision or teaching desirable. Good salary and permanent employment for right person. Apply Dean, School of Nursing, Northwestern State College, Natchitoches, La.

International Vacancies

Chief Public Health Adviser—I.C.A. Mission, Afghanistan, M.D. and M.P.H. de-

grees plus experience in responsible local or state public health administration. Duties: to advise the Royal Afghan Ministry of Public Health on development of an expanded public health service including establishment of a demonstration public health center for the Helmand Valley Area.

Chief Public Health Adviser—I.C.A. Mission, Kathmandu, Nepal. M.D. and M.P.H. degrees plus experience in responsible local or state public health administration. Duties: to advise the Ministry of Public Health on the establishment and development of an expanded public health program and on coordination of public health activities with village development service and related projects.

Chief Sanitary Engineer—I.C.A. Mission, Afghanistan. B.S. in civil or sanitary engineering plus experience in developing and directing a program of sanitary engineering. Duties: to advise the Royal Afghan Ministry of Public Health on the planning and development of the sanitary engineering aspects of a large multiple-purpose area development project, including the establishment and conducting of training programs.

Chief Sanitary Engineer Adviser—I.C.A. Mission, Kathmandu, Nepal. B.S. in civil or sanitary engineering plus experience in developing and directing a program of sanitary engineering. Duties: to advise on the development and administration of sanitary engineering and environmental sanitation programs, including the making of engineering surveys and studies on water supplies, vector control, excreta disposal, etc., and the setting up of training programs.

Public Health Nurse—I.C.A. Mission, Port-au-Prince, Haiti. B.S. degree and at least one year postgraduate study in public health nursing. Minimum of four years' experience in public health nursing. Duties: to assist in initiating and developing a public health nursing program including rural health and school health, setting up rural clinic and outpost facilities, and participating in cooperative program for teacher training.

All of the above positions call for a two-year tour of duty minimum. Attractive salary and adequate living allowances. U. S. Public Health Service, Division of International Health, Washington 25, D. C.

POSITIONS WANTED

A Health Educator—British subject, holding M.Sc., M.P.H., and Ph.D. degrees in health education and with several years' experience in teaching health education in medical college, teacher's training college and elsewhere and organizing country-wide health education programs in a British colony, seeks position as a health education consultant or as a health education professor with any international agency or foreign government. Write **Box H.E.-70,** Employment Service, A.P.H.A.

Commercial Advertisements

All communications on the following commercial advertisements should be sent to Burneice Larson, Medical Bureau, Palmolive Building, Chicago 11, Ill.

OPPORTUNITIES AVAILABLE

(a) Public health physician; direct, city health department; newly established position; county seat town, adjoining large city, medical center; $13,000. (b) Public health physician to direct university student health department, state controlled university; opportunity affiliation with state health department; (c) Executive director, visiting nurse association; staff of 24; preferably one who can direct agency in sound progressive channels; large city, important medical center; West. (d) Supervisors and staff nurses; generalized program; rural or urban areas; cars provided; California. (e) Public health nursing faculty member; state college; South; $5,000–$6,200. (f) Assistant professor, public health nursing; Eastern university. (g) Director, health education and program director; outside the United States. (h) Health educator; voluntary health agency; staff of 10; medical center, Midwest. (i) Program director; tuberculosis association; minimum $6,800. (j) Sanitary engineer to supervise program; county health department; East; $8,000. (k) Sanitary engineer and sanitarian; two-county health department; resort area, Michigan. (l) Health inspector; knowledge of meat and dairy product inspection required; foreign assignment; two-year contract, renewable; $8,400. (m) Associate director, industrial hygiene; state health department. Burneice Larson, Medical Bureau, Palmolive Building, Chicago, Ill.

OPPORTUNITIES WANTED

WANTED—Opportunities for a group of well qualified public health physicians, public health nurses, health educators, sanitary engineers, sanitarians, industrial hygienists, health inspectors. Candidates available for administrative academic and staff appointments. All negotiations strictly confidential. Burneice Larson, Medical Bureau, Palmolive Building, Chicago, Ill.

News from the Field

WHO News

Preventive Medicine Teaching Seminars

The Pan American Sanitary Bureau, WHO's regional office for the Americas is holding two seminars on the teaching of preventive medicine. To these will be invited participants from the 75 medical schools in Latin America. The first seminar, held in Chile in late August included medical deans and professors from the eight countries of South America. To the second will be invited participants from 11 northern Latin American countries.

The seminars are organized on a "workshop" basis without presentation of formal papers. Among the subjects being discussed are: The role of the Department of Preventive Medicine in the activities of public health services, and vice versa; the organization of the Department of Preventive Medicine, its relationship with other departments, and the program and methods of teaching preventive medicine.

Girl Scouts Make Layettes

In a recent special ceremony at UN headquarters in New York, the 10,000th layette made by Girl Scouts was presented to the Brazilian delegate to UNICEF's Executive Board, D. Silveira Da Mota. The project was begun in the spring of 1954 by National Headquarters of Girl Scouts in the United States to meet the needs of scores of expectant mothers in Brazil who could not afford even the poorest fabrics for their infants. In addition to Brazil, the layettes have been distributed in El Salvador and Panama. At the cremony Girl Scout representatives from 12 countries of Europe, Asia, and South America, of Australia, and the United States were present.

Marion B. Folsom New Secretary of Health

Marion B. Folsom of Rochester, N. Y., who has been serving as assistant secretary of the treasury, Washington, D. C., took the oath of office as secretary of the Department of Health, Education and Welfare on August 1, succeeding Mrs. Oveta Culp Hobby of Texas, resigned.

Mr. Folsom has long been identified with the Eastman Kodak Company of Rochester and has been treasurer since 1935. He was a member of the President's Advisory Council on Economic Security, 1934–1935, and helped to write the Social Security Act. He was president of the Rochester Council of Social Agencies, 1934–1936, and served as a delegate from the United States to the International Labor Conference in Geneva, 1936. He has served as a member of the Federal Advisory Council on Social Security and as a member of the Social Security Advisory Council of the U. S. Senate Finance Committee. He served from 1942–1945 on the War Manpower Commission and on the New York State Advisory Council on Unemployment Insurance. He has been chairman of the Board of Trustees of the Committee for Economic Development, a trustee of the Rochester Bureau of Municipal Research and Director of the Rochester Community Chest, and a member of the American Statistical Association. He is a graduate of Harvard University, 1914, and holds honorary degrees from the University of Rochester and New York University.

Making the Disability Freeze Work

A recent report of the Medical Advisory Committee on the "disability freeze" makes several recommendations

to state and federal agencies concerned with disability determination under the Social Security Act that will be of interest to public health personnel. The "disability freeze" provisions of the 1954 Social Security Act Amendments preserve the benefits of Old-Age and Survivors Insurance for otherwise eligible beneficiaries who are kept from employment by a disability. Since health departments are concerned with the problems of the disabled, they should be aware of the probable policy directions of the agencies helping eligible individuals under the new law to secure disability determinations and appropriate referrals for care, including rehabilitation.

On medical policy the Advisory Committee recommends that the medical report must be based on an examination by a person licensed to practice medicine, and acted upon by a reviewing board of physicians. If the reviewing board needs further medical opinion, it should be obtained from a consultant at the specialist level. Any medical disability may be re-evaluated. Remediable impairments do not qualify the applicant for the disability freeze if he rejects treatment that is safe and reasonable according to the usually accepted standards of medical practice.

Among broader policy recommendations of interest to public health workers are:

1. State agencies responsible for the determination of disability should acquaint other state agencies with the content of the program and solicit use of combined resources whenever possible to avoid duplication and reduce administrative costs.

2. Trained personnel should be available to explain to those whose applications for a disability freeze have been disallowed on medical grounds how his impairment may be corrected and to make appropriate referral to other resources for services or assistance.

3. State agencies responsible for the determination of disability should take the initiative in acquainting the medical societies and their members with the purposes, methods, and benefits of the disability freeze provision.

Social Security Bulletin, 18:26–27 ff. May, 1955, U. S. Gov. Ptg. Office, Washington 25, D. C. (See also A.J.P.H., April, 1955, p. 566.)

20 Per cent Owe for Medical Care

The third of the current series of reports on consumer finances reveals that 20 per cent of families (spending units) in the United States are in debt to doctors, dentists, or hospitals for medical services; 3 per cent of all families and 5 per cent of those with incomes of $1,000 or less have debts of $200 or more.

As in recent years, medical indebtedness remains concentrated in families that include children. Among families with medical debts a larger proportion of those whose head is aged 25–34 have bills of $200 or more, than is true for either younger or older families. This group also has the highest percentage in debt for medical services. Most families in all age groups have bills of $100 or less.

1955 Survey of Consumer Finances —The Financial Position of Consumers, reprinted from the Federal Reserve Bulletin, June, 1955.

Food and Drug Bureau Needs

A 14-member advisory committee named by former Secretary Hobby in February has recently made a detailed report of its recommendations for the Food and Drug Administration of the Department of Health, Education, and Welfare. The committee finds that with present personnel and facilities, FDA is "incapable of fulfilling its obligation to protect the public health." It points out that the annual output of products subject to FDA regulation is estimated to be 60 billion dollars; that, although

population has increased by 30 million since 1941 and that thousands of new drugs have come on the market, FDA's enforcement personnel has declined. Staff shortages in the Division of Medicine have resulted in a large backlog of drug applications. Although more than 4,000 business firms that manufacture, ship, or store drugs or devices entering interstate commerce should be inspected annually, only 1,614 were inspected in 1954.

The committee recommends that in order to meet its statutory responsibilities, FDA's personnel and facilities must be increased fourfold in the next ten years. Vice-president of General Mills, G. Cullen Thomas, was chairman of the Advisory Committee which included also L. A. Maynard, Sc.D., former director, School of Nutrition, Cornell University, and presently chairman, Division of Biology and Agriculture, National Research Council, and Harry F. Dowling, M.D., head of the Department of Preventive Medicine, University of Illinois School of Medicine, as well as representatives of food, drug, and cosmetic industries, consumers, and labor.

USPHS Air Pollution Program

Congress has passed and the president has signed a bill authorizing an appropriation of five million dollars for each of the next five years to carry on a program of air pollution control by the Public Health Service. The bill authorizes the Service in cooperation with other public and private organizations to prepare, recommend and carry out a program in the study of smog and other forms of air pollution.

Annual Crumbine Awards Established

Two annual national awards honoring the late Samuel J. Crumbine, M.D., have been established by the Public Health Committee of the Paper Cup and Container Institute. The awards are intended to perpetuate Dr. Crumbine's lifelong interest in health education and sanitation. The two awards are offered to official city, county, or local district health units respectively for "outstanding achievement in the development of a comprehensive program of environmental sanitation" and "outstanding achievement in the development of a program of eating and drinking sanitation." In 1955 awards will cover programs in progress or completed during the year.

Each award consists of a bronze medal and engraved plate mounted on a walnut plaque, with duplicates to the health officer and the person or persons under whom the winning programs were carried on. They will be presented annually at the annual meeting of one of the professional societies.

Dr. Crumbine was a pioneer health officer of Kansas, campaigner against the common drinking cup, and originator of many health crusades. At the time of his death in 1954, he was consultant to the Public Health Committee which has established the awards in his honor.

The award winners will be selected by a jury of public health experts. Closing date for applications for the 1955 awards is September 15. Health departments may enter the competition by applying to the Public Health Committee, Paper Cup and Container Institute, 250 Park Ave., New York 17, N. Y.

Fellowships for Women

The American Association of University Women announces 28 fellowships for American women for advanced study or research during the academic year 1956–1957. Of these, 21 are $2,000 fellowships, all unrestricted except that two are for study outside the United States and one is

for research in chemistry, physics, or biology. Three $2,500, three $3,000, and one $3,500 fellowships are unrestricted. In addition American women are eligible for a number of international fellowships that are available for study in other countries.

The $2,000 awards are generally available to women who have completed residence work for the Ph.D. degree or have already received the degree, the $2,500–$3,500 to more mature scholars. Applications and supporting material must be presented by December 15, 1955. Secretary, Committee on Fellowship Awards, AAUW, 1634 Eye St., N. W., Washington 6, D. C.

California Study of Blindness

The State Department of Public Health of California has received a grant of $144,000 from the W. K. Kellogg Foundation for a three-year study of the prevention of blindness in the state. The study will be directed by Lester Breslow, M.D., chief of the Bureau of Chronic Diseases, and chairman of the APHA Subcommittee on Chronic Disease and Rehabilitation.

According to the announcement, the study will attempt to establish the prevalence of the various forms of blindness and the conditions leading to it and will investigate the nature of various forms of blindness.

Industrial Health Information

What is reported to be "a landmark in industrial health education" began operations in Cambridge, Mass., under the sponsorship of the Cambridge Community Services and the Harvard School of Public Health on July 1, 1955. Known as the Cambridge Industrial Health Information Service it has a research and action program aimed at defining the specific needs and the areas of interest in the field of health information among the employees of local industries.

Plans for this project were first conceived some five years ago under the leadership of Community Services Health Education Committee chaired by Mrs. Hugh R. Leavell.

Four large industries act as pilot centers and the program is directed and combined by a full-time coordinator, Mary Denaro, former health educator, Massachusetts Division, American Cancer Society. Headquarters are at 26 Blackstone St., Cambridge, Mass.

Technical Noise Control Journal

The growing interest in the effects of noise and ways for controlling undesirable noise is indicated by the appearance of a new technical journal, "Noise Control," published by the Acoustical Society of America. The first issue, January, 1955, has a dozen technical articles, in addition to editorials, book reviews, news notes, and a section on new products. Among the articles is one on forecasting a community's reaction to noise. Noise hazards in industry, noise control research, city noise, instrumentation for noise measurement, physiological, and legal aspects of noise are other subjects dealt with. Lewis S. Goodfriend is the editor. Acoustical Society of America, 57 E. 55th St., New York 22, N. Y.; $8 per year.

How to Get Doctors to Rural Areas

The Pennsylvania Medical Society, through its Committee on Rural Health and Physician Placement, and the Pennsylvania State University are cooperating in a program to get more doctors into rural areas. A questionnaire study is being made of some 1,000 practitioners in rural areas. The rural doctor is being asked what are the personal, social, and economic advantages of rural practice. He is asked why he selected

rural practice, what opportunities there are for scientific study and hospital affiliations, what opportunities he and his family have to enter into the social, fraternal, religious, and community organization life of his location.

California Chronic Disease Study

The California Department of Public Health has received a five-year grant of $150,000 from the Rockefeller Foundation to assist in the epidemiological studies of the department's Bureau of Chronic Diseases. Among the problems being studied are the relation of occupation and heart disease, the relation of occupation and smoking to lung cancer, methods of morbidity measurement, and nutrition in the health of the older person.

Occupational Skin Problems

The Institute of Industrial Health of the University of Cincinnati announces a week's course in Occupational Skin Problems, October 10–14, 1955. The aim is to give physicians a greater understanding of cutaneous problems of occupational origin. The program will consist of morning lectures and clinical demonstrations, afternoon field instruction in industrial plants, and evening panel discussions. Detailed consideration will be given to the etiology, diagnostic evaluation and treatment of occupational dermatoses, and specific measures for prevention and control of these problems.

The course is given jointly by the university's Departments of Preventive Medicine and Industrial Health and Dermatology and Syphilology, in collaboration with the Occupational Health Program of the U. S. Public Health Service. Early application is advised since attendance will be limited. Further information and application blank from Secretary, Institute of Industrial Health, Kettering Laboratory, Eden and Bethesda Avenues, Cincinnati 19, Ohio.

UMWA Nurse Training Program

The Miners Memorial Hospital Association of the United Mine Workers Welfare and Retirement Fund has begun its nurse training program with a class of 20 for practical nurse training at the association's hospital in Harlan, Ky. The course consists of four months each of didactic instruction and clinical instruction.

As the hospitals of the association are completed, the two in South Williamson, Ky., and Beckley, W. Va., will be used for practical nurse training. Each will admit two classes of 20 students each annually. Inducements are reported to be attractive—room and board and a generous "educational allowance." A professional nurse training school with a three-year program of study will be established in the 192-bed hospital in Harlan.

Professional nursing salaries at the 10 hospitals of UMWA start at $370 per month; practical nursing at $275, each based on a 40-hour week.

New Lederle Medical Faculty Awards

Lederle Laboratories Division of the American Cyanamid Company has established awards to help assure that promising medical men can afford to remain in teaching and research at schools and universities in the preclinical departments. The awards, believed to be the first of their kind in the field of medical education, are intended to supplement salaries or to help schools fill teaching or research positions. For 1955 awards totaling $279,808 have been made to 19 medical school teachers and researchers.

The awards are administered by an independent committee, drawn from professors in medical schools through-

out the United States and representing most of the preclinical sciences. All grants made through the Lederle Faculty Awards Committee are for a term not exceeding three years, and no single grant may exceed $10,000 per year.

Winifred Hathaway Memorial Fund

At the suggestion of her many friends and associates in the field of education, a Winifred Hathaway Memorial Fund has been established by the National Society for the Prevention of Blindness. This fund will be devoted to the society's work in the education and health of partially seeing children. Contributions to the fund may be sent to the National Society for the Prevention of Blindness, 1790 Broadway, New York 19, N. Y.

Mrs. Hathaway joined the National Society in 1916 and for 24 years was its associate director. She initiated its campaign of professional education, working particularly on the promotion of educational facilities for partially seeing children. Shortly before her death in December, 1954, she completed the latest revision of "Education and Health of the Partially Seeing Child," the standard textbook used throughout the world.

Industrial Noise and Employees

The Employee Relations Division of the National Association of Manufacturers has published a brief report on "Industrial Noise" which is summarized thus:

"Industrial noise can be the cause of serious problems. Therefore, management to protect itself and its employees should take the following steps:

1. Determine whether there are areas in the plant where noise may create problems.
2. Take steps to protect employees from noise levels that may be injurious and protect the company from possible financial losses."

The pamphlet outlines present knowledge about industrial noise hazards and suggests ways by which employees can be protected against its hazards. Employee Relations Division, National Association of Manufacturers, 2 East 48th St., New York 17, N. Y.; 25 cents; 10 cents in quantities of 100.

Recalcitrant Tuberculosis Patients

A law passed by the 1954 Kentucky General Assembly provides that a patient with communicable tuberculosis who is endangering the welfare of his family and community by not following proper isolation procedures may be forcibly confined. The Julius Marks Sanatorium in Lexington has been made available for this purpose if there are no suitable local facilities. Such isolation must be accepted as an alternative to confinement in jail, which the law also authorizes.

PERSONALS

ELEANOR C. BAILEY,† formerly on special assignment to the Occupational Health Program, Public Health Service, has been appointed its industrial nursing consultant.

COLONEL CHARLES O. BRUCE, MC, USA,* former senior military assistant to the Secretary of the Army, has been assigned as health director, Panama Canal Zone Government.

FRED J. BURGESS, engineering staff member, Oregon State Board of Health, has received the 1955 Clemens Herschel Award of the Harvard University Graduate School given annually to the student having the highest grades in the field of sanitary engineering. Winners in 1953 and 1954 were also on the staff of the Oregon State Board of Health.

THELMA JOSEPHINE CLARKE,† former assistant dietitian, Presbyterian Hospital, is now apprentice nutritionist, Bureau of Nutrition, New York State Department of Health, Albany.

ESTHER M. CLOSSON, M.D., has succeeded LEWIS H. HOWARD, M.D.,† retired, as Pima county health director, Ariz.

JOHN W. CRONIN, M.D.,* chief, Division of Hospital Facilities, Public Health Service, was given an honorary degree of Doctor of

* Fellow.
† Member.

Science on June 6 at Miami University's 146th commencement exercises, Oxford, Ohio.

JOHN C. CUTLER, M.D., M.P.H.,† chief, Technical Aids and Services Branch, Division of Venereal Disease, Public Health Service, Washington, D. C., was presented with an honorary life membership in the American Social Hygiene Association at its recent annual meeting in recognition of his career in prevention of venereal diseases.

LIEUTENANT COLONEL EDWARD J. DEHNE,* former chief of preventive medicine, U. S. Army, Caribbean, has been named head of the Army Environmental Health Laboratory, Army Chemical Center, Md., succeeding COLONEL JOSEPH H. MCNINCH,* now chief, Personnel Division, Office of the Army Surgeon General, Washington, D. C.

MAJOR CLIFTON O. DUMMETT, D.D.S., USAF,* chief, Dental Service, Veterans Administration Hospital, Tuskegee, Ala., is on leave serving as chief, Periodontia Section and base preventive dentistry officer, 5005th USAF Hospital, Elmendorf Air Force Base, Alaska.

WILLIAM M. GAFAFER, D.Sc.,* technical adviser to the chief of the Occupational Health Program, Public Health Service, has been appointed to the Research Advisory Council, Industrial Hygiene Foundation of America.

F. WELLINGTON GILCREAS,* assistant director in charge, Laboratories for Sanitary and Analytical Chemistry, Division of Laboratories and Research, New York State Department of Health, has retired to become research professor in sanitary science, University of Florida, Gainesville.

JACK J. GOLDMAN, M.D.,† former deputy commissioner, Suffolk County Department of Health, is now deputy health commissioner, Westchester County Department of Health, White Plains.

ERNEST W. GOODPASTURE, Sc.D., former professor of pathology, Vanderbilt University School of Medicine, and now scientific director of the newly activated Department of Pathology, Armed Forces Institute of Pathology, Washington, D. C., has received the 1955 annual Howard Taylor Ricketts Award of the University of Chicago in recognition of his outstanding contributions to the field of virus and rickettsial diseases. Dr. Goodpasture won the Sedgwick Memorial Award of the American Public Health Association in 1944.

JOHN B. GRANT, M.D.,* associate director, Medicine and Public Health, The Rockefeller Foundation, has been assigned to the Department of Preventive Medicine and Public Health of the Puerto Rico School of Medicine, San Juan, as professor of public health practice and medical care.

LILLIAN CHRISTENSEN GRIFFITH, former special assistant to the director, Committee on Careers, National League for Nursing, has been appointed director of public relations, New York Tuberculosis and Health Association, New York City, succeeding MARY WILLIAMSON HOOKER, resigned.

JACK GROSS, M.D., Ph.D., associate professor of anatomy, State University of New York, Brooklyn, has received the 1955 Endocrine Society Ciba Award for outstanding research in endocrinology.

RUTH GROVES, R.N.,† formerly in the Hospital Facilities Division, Kansas State Health Department, has gone to her home in St. Joseph, Mo., for a period of rest.

JANE M. HOEY,† director, Division of Social Research, National Tuberculosis Association, New York City, is the first recipient of the $1,000 Florina Lasker Social Work Award of the New York School of Social Work given annually to a professional social worker.

OMAR C. HOPKINS,† sanitary engineer director, who was regional engineer at the San Francisco regional office, Public Health Service, has been transferred to the Division of International Health, for assignment to the U. S. Operations Mission, New Delhi, India.

MAURICE KAMP, M.D., M.P.H.,* Senior Surgeon, Public Health Service, formerly assigned to the Health Department, Chicago, Ill., is now director of health, Louisville-Jefferson County Board of Health, Ky.

EDWARD JAMES KILCAWLEY,* head, Division of Soil Mechanics and Sanitary Engineering, Rensselaer Polytechnic Institute, Troy, N. Y., has received an Award of Merit of the American Society for Testing Materials in recognition of extensive and valued service to the society, particularly in support of standardization and research work in the Committee on Soils for Engineering Purposes.

A portrait of ELMER VERNER MCCOLLUM, Ph.D.,* professor emeritus of biochemistry, Johns Hopkins University, Baltimore, was recently presented to the university's Welch Medical Library by colleagues, former students, and friends.

FREDERICK SUMNER MCKAY, D.D.S.,† of Colorado Springs, Colo., winner of a 1952 APHA Lasker Award, was given an honorary Doctor of Science degree by

* Fellow.
† Member.

Western Reserve University at its recent 129th annual commencement in Cleveland.

GORDON MONTGOMERY MEADE, M.D., former executive director, Trudeau-Saranac Institute, is now clinical consultant, Memorial Hospital Association, United Mine Workers of America Welfare and Retirement Fund, Washington, D. C.

LESTER A. MEIS, M.P.H.,† former consultant, Orkin Institute of Industrial Sanitation, Atlanta, Ga., is now manager of the Coastal Bend, Laredo, and Rio Grande Valley divisions, Orkin Exterminating Co., Corpus Christi, Tex.

MELVIN NELSON, former district engineer, Iowa State Department of Health, is now district engineer, District One, South Dakota State Health Department, Rapid City. He succeeds BARRON NANGLE, now on the staff of the Rapid City Bureau of Building Inspection.

LILLIAN OSTRAND, R.N.,† on the staff of the Pittsburgh Department of Health, has been appointed resident lecturer in public health nursing, Michigan School of Public Health, succeeding ALICE HAGELSHAW, R.N., M.P.H.,† resigned to become professor of public health nursing, University of Arkansas School of Nursing, Little Rock.

JAMES H. PENCE, D.D.S.,† director, Division of Oral Hygiene, North Dakota State Department of Health, has resigned because of ill health.

RAYMOND RUFF, formerly Malheur County sanitarian, has been appointed to the staff of the Oregon State Board of Health, General Sanitation Section.

LUDWIG VON SALLMAN, M.D., professor of ophthalmology, Columbia University College of Physicians and Surgeons, is visiting scientist to direct the eye research program at National Institutes of Health Clinical Center, Public Health Service.

ALFRED L. SCHERZER, Ed.D.,† is now WHO health education consultant, assigned as health education adviser, Government of Ceylon. His address is c/o Department of Health, P. O. Box 500, Colombo 1, Ceylon.

JEAN J. SCHUENEMAN,† former chief, Sanitation Rat Control and Mosquito Control Sections, St. Louis Health Division, is now public health engineer, Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati.

WALTER J. SHEA,† chief sanitary engineer, Rhode Island Department of Health, has been elected chairman, New England Interstate Water Pollution Control Commission, Boston, Mass.

TESSIE O. SHIRLEY has been awarded the American Hearing Society's Kenfield Memorial Scholarship for 1955 to prepare for teaching lipreading in the Special Education Department, Brownwood, Tex.

JAMES H. STEELE, D.V.M.,* chief, Veterinary Public Health Section, U. S. Public Health Service's Communicable Disease Center, Atlanta, Ga., recently spent about six weeks in meeting with WHO's Expert Committee on Zoonoses and visiting universities and research centers in England, France, and Germany. In recognition of his services to the professions and the public Dr. Steele received a Centennial Award given at the 100th anniversary of the founding of Michigan State College, East Lansing.

RAY E. TRUSSELL, M.D., M.P.H.,* director of the Hunterdon Medical Center, Flemington, N. J., since its organization in 1952, has been appointed director, Columbia University School of Public Health, New York City.

WILLIAM A. TOWNSEND, M.D.,† assistant director, Division of Communicable Diseases, Massachusetts Department of Public Health, has been appointed health commissioner of Gary, Ind.

HULDA WEGENER, R.N.,* former district consultant nurse, Kansas State Health Department, is now executive secretary, Kansas State Nurses Association, Topeka.

W. W. WENDT, former associate, Program Development Division, National Tuberculosis Association, is now executive director, Virginia Tuberculosis Association.

COLONEL THOMAS F. WHAYNE, MC, USA,* chief of preventive medicine in the Surgeon General's Office has retired to become professor of public health and preventive medicine, University of Pennsylvania School of Medicine, Philadelphia.

HUNTINGTON WILLIAMS, M.D., Dr.P.H.,* commissioner of health, Baltimore, and member, Maryland State Board of Health, has been elected an Honorary Fellow, Royal Sanitary Institute, London.

WESLEY O. YOUNG, D.D.S.,† has completed a tour of duty with the Division of Dental Resources, Public Health Service, and returned to his former position as director, Division of Dental Health, Idaho Department of Public Health, Boise.

* Fellow.
† Member.

DEATHS

Ernest A. Cook, M.D.,† director, Fayette County Health Department, Fayetteville, W. Va. (Health Officers Section).

MAXWELL J. FEIN, M.D.,† clinical professor in pathology, New York University Post Graduate Medical School, New York, N. Y., on July 14 (Laboratory Section).

JOSEPH-LEON HOUDE, M.D., C.P.H.,† district medical health officer, Rimouski, P.Q., Canada (Health Officers Section).

ANJA S. HUHTINEN, M.D., M.P.H., assistant provincial health officer, Uusimaa Province, Finland, and director, Uusimaa PH. Demonstration and Training Field, on July 13 (Maternal and Child Health Section).

PAUL W. MCCRACKEN, M.D., M.P.H.,* in private practice in Newark, Ohio, and formerly director, Maricopa County Health Unit, Ariz., on April 24 (Health Officers Section).

CONFERENCES AND DATES

American Public Health Association, 83rd Annual Meeting, Kansas City, Mo., November 14–18.

American School Health Association
Business Management in Public Health, Association of
Cleveland Health Museum, National Advisory Council of the
Commissioned Officers Association of the United States Public Health Service
Health Authorities of North America, Conference of State and Provincial
Health Council Work, Conference for Health Council, National
Hospital Consultants, American Association of
International Health, Division of, Public Health Service
Labor-Management Medical Care Program Administrators
Maternal and Child Health and Crippled Children's Directors, Association of
Military Government—Civil Affairs Public Health Society
National Sanitation Foundation
Nurse Directors, Conference of
Preventive Medicine, American Board of
Preventive Medicine, American College of
Preventive Medicine, Association of Teachers of
Public Health Cancer Association
Public Health Education, Conference of State and Territorial Directors of
Public Health Educators, Society of
Public Health Engineers, Conference of Municipal
Public Health Laboratory Directors, Conference of State and Provincial
Public Health Nutrition Directors, Association of State and Territorial
Public Health Physicians, American Association of
Public Health Training, Conference of State Directors of
Public Health Veterinarians, Conference of
Registration Executives, American Association of
Reserve Officers Association of the United States Public Health Service
Sanitarians, National Association of
Sanitary Engineers, Conference of State
Schools of Public Health, Association of
World Health Organization, National Citizens Committee for the

State and Regional Public Health Meetings:

Michigan Public Health Association. Pantland Hotel, Grand Rapids, Mich. October 6–8.

Minnesota Public Health Association. Hotel Nicollet, Minneapolis, Minn. September 29–30.

New Mexico Public Health Association. Santa Fe, N. M. October 12–14.

North Carolina Public Health Association. Robert E. Lee Hotel, Winston-Salem, N. C. September 22–24.

Ohio Public Health Association. Deshler Hilton Hotel, Columbus, Ohio, September 12–14.

Oklahoma Public Health Association. Student Union—A & M College. Stillwater, Okla. November 7–9.

South Dakota Public Health Association, Marvin Hughitt Hotel, Huron, S. D. September 28–30.

Tennessee Public Health Association. Maxwell House Hotel, Nashville, Tenn. November 30–December 2.

Washington State Public Health Association. Davenport Hotel, Spokane, Wash. September 18–20.

West Virginia Public Health Association. Daniel Boone Hotel, Charleston, W. Va. September 8–9.

Meetings of Other Organizations Coming in September, October, and November:

American Academy of Pediatrics. Palmer House, Chicago, Ill. October 3–6.

American Association of Medical Record Librarians. La Salle Hotel, Chicago, Ill. October 3–7.

American Chemical Society. Minneapolis, Minn. September 11–16.

American Dental Association. San Francisco, Calif. October 17–20.

* Fellow.
† Member.

American Dietetic Association. St. Louis, Mo. October 18–21.

American Heart Association. New Orleans, La. October 22–26.

American Hospital Association. Atlantic City, N. J. September 19–22.

American Occupational Therapy Association. San Francisco, Calif. October 22–28.

American Psychological Association. San Francisco, Calif. September 2–7.

American Society of Civil Engineers. New York, N. Y. October 17–21.

Association of American Medical Colleges. New Ocean House, Swampscott, Mass. October 24–26.

Association of State and Territorial Health Officers, Washington, D. C. November 6–12.

Canadian Public Health Association. Macdonald Hotel, Edmonton, Alberta, Canada. September 6–8.

Federation of Sewage and Industrial Wastes Associations. Atlantic City, N. J. October 10–13.

International Association of Milk and Food Sanitarians, Inc. Augusta, Ga. October 4–6.

National Association for Mental Health. Indianapolis, Ind. November 4–6.

National Committee on Homemaker Service. Hotel Windemere, Chicago, Ill. October 20–21.

National Conference on Physicians and Schools. Hotel Morraine, Highland Park, Ill. October 12–14.

National Nurse Week. October 9–15.

National Recreation Association, Denver, Colo. September 27–October 1.

National Safety Council. Conrad Hilton Hotel, Chicago, Ill. October 17–21.

National Society for Crippled Children and Adults. Palmer House, Chicago, Ill. November 28–30.

United Cerebral Palsy. Washington, D. C. November 19–21.

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Congress of Industrial Organizations, Washington, D. C.
Difco Laboratories, Detroit, Mich.
Diversey Corporation, Chicago, Ill.
Equitable Life Assurance Society of the United States, New York, N. Y.
Grand Concourse Medical Group, New York, N. Y.
John Hancock Mutual Life Insurance Company, Boston, Mass.
Hellige, Inc., Garden City, N. Y.
Hoffmann-La Roche, Inc., Nutley, N. J.
International Association of Ice Cream Manufacturers, Washington, D. C.
International Association of Machinists, Washington, D. C.
International Equipment Company, Boston, Mass.
Lederle Laboratories Division, American Cyanamid Co., New York, N. Y.
Liberty Mutual Insurance Companies, Boston, Mass.
Licensed Beverage Industries, Inc., New York, N. Y.
Life Insurance Company of Virginia, Richmond, Va.
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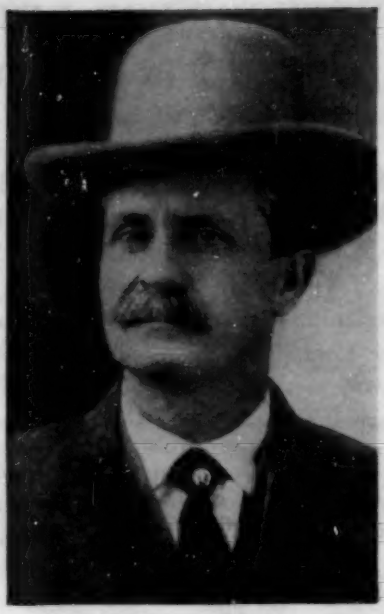

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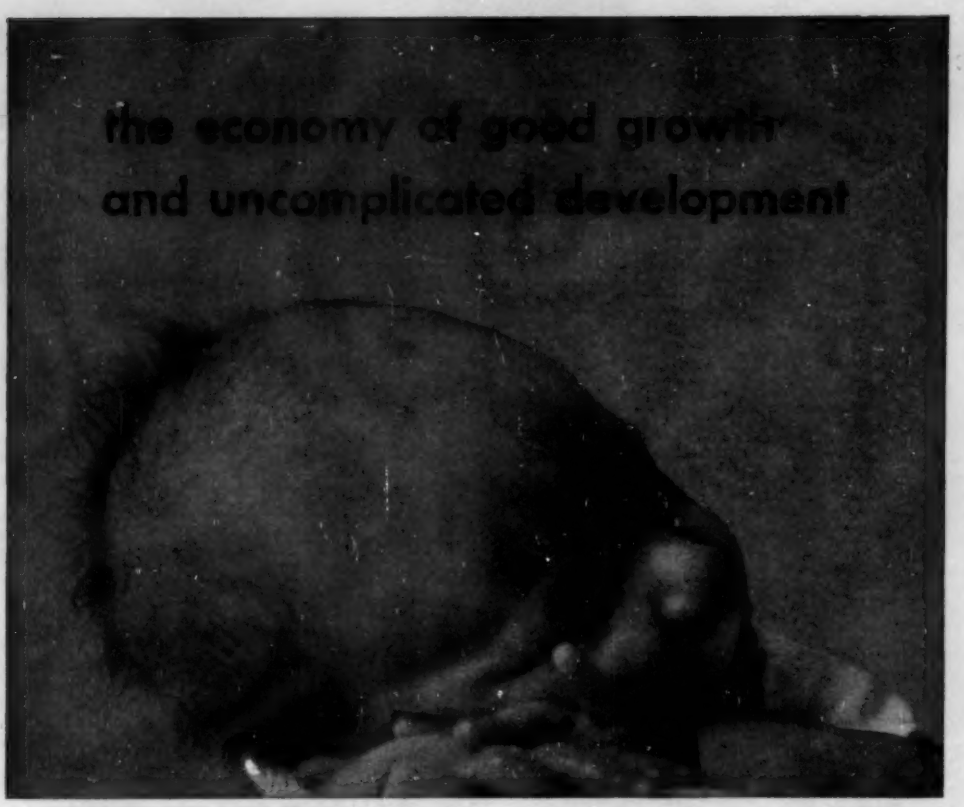

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